



**MINISTRY OF EDUCATION, YOUTH AND SPORT
BUILD BRIGHT UNIVERSITY
SCHOOL OF DOCTORAL STUDIES**

CHHIM KHINDARETH

**AN EXPLORATORY STUDY ON THE FINANCING OF
HIV/AIDS AND ITS IMPACT ON THE BENEFICIARIES IN
CAMBODIA**

**THESIS SUBMITTED FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY**

SPECIALIZATION

ECONOMICS

PHNOM PENH – 2020



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**UNDER THE GUIDANCE OF
PROF. (DR.) MANARANJAN BEHERA**

PHNOM PENH – 2020

DECLARATION

I do hereby declare that except otherwise stated the thesis **"An Exploratory Study on Financing of HIV/AIDS and Its Impact on the Beneficiaries in Cambodia"** is based on my original work and the same has not been submitted either in part or in full for the award of any other degree of any other university.

CHHIM KHINDARETH



**BUILD BRIGHT UNIVERSITY
SCHOOL OF DOCTORAL STUDIES
PHNOM PENH, CAMBODIA**

PROF. (DR.) MANARANJAN BEHERA

Senior Dean, School of Doctoral Studies &
Faculty of Arts, Humanities and Languages
Email: mbehera04@yahoo.co.in

CERTIFICATE

This is to certify that Mr. Chhim Khindareth, a candidate for Ph.D. degree in Economics of Build Bright University, has prepared his thesis on **"An Exploratory Study on Financing of HIV/AIDS and Its Impact on the Beneficiaries in Cambodia"** under my supervision and guidance.

To the best of my knowledge, the research work contains materials, which have not at any time been submitted for the award of any degree. This thesis deserves meritorious consideration.

MANARANJAN BEHERA

(Supervisor)

ACKNOWLEDGEMENTS

First of all, I would like to express my sincere gratitude and profound thanks to His Excellency Mr. Ieng Mouly, Senior Minister and Chair of the National AIDS Authority for providing his encouragement, motivation and opportunity to conduct this research successfully.

I would also like to express my sincere appreciate to Prof. (Dr.) Manaranjan Behera, Senior Dean, School of Doctoral Studies, Build Bright University, Cambodia, under whose able and effective guidance the thesis has been prepared. It is his constant inspiration, supervision and active guidance that have enabled me to complete this work. I shall remain deeply indebted to him.

I would like to thank His Excellency Dr. In Viracheat, Chairman of Governing Council of Build Bright University; and Mr. Diep Seiha, President of Build Bright University for their support and encouragement in pursuing my research work. Furthermore, I am thankful to all Professors, and in particular, to Associate Professor Dr. Dy Davuth for his help and encouragement in pursuing the research.

I am thankful to all management and officials of the National AIDS Authority of Cambodia for enabling me to carry out the present research by providing me necessary information. I also express my sincere thanks to various organizations for providing me necessary secondary information for my research.

Last, but not the least, I express my deep sense of gratitude to my family for their constant inspiration, valuable support and encouragement and especially my wife, Seng Mony Yada, my daughters, Khindareth Monyneath, Khindareth Mony Boramey, and my son, Khin Cheypol, who have given up their personal happiness to enable me to complete this research.

CHHIM KHINDARETH

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
ARV	Antiretroviral
BIACM	Boosted Integrated Active Case Management
CSOs	Civil Society Organizations
EID	Exposed infant diagnosis
eMTCT	Elimination of Mother-to-Child Transmission of HIV
FEW	Female Entertainment Workers
GDP	Gross Domestic Product
GHE	Government Health Expenditure
HEF	Health Equity Fund
HEF	Health Equity Fund
HEF	Health Equity Fund
HIV	Human Immunodeficiency Virus
HP+	Health Policy Plus
IDPoor	Identification of Poor Households Programme
KPs	Key populations
LGBT	Lesbian, Gay, Bisexual, Transgender
LMICs	Lower-Middle-Income Countries
M&E	Monitoring and evaluation

MEF	Ministry of Economy and Finance
MoEF	Ministry of Economy and Finance
MoEYS	Ministry of Education, Youth and Sports
MOH	Ministry of Health
MOI	Ministry of Interior
MOP	Ministry of Planning
MOSAVY	Ministry of Social Affairs, Veterans and Youth Rehabilitation
MSM	Men who have sex with men
NAA	National AIDS Authority
NCHADS	National Centre for HIV/AIDS, Dermatology and STDs
NGOs	Non-governmental organization
NHA	National Health Account
NSPC	National Social Protection Council
NSPPF	National Social Protection Policy Framework
NSSF	National Social Security Fund
NSSF-C	National Social Security Fund for Civil Servants
OI	Opportunistic Infection
OOPE	Out-of-Pocket Expenditure
OVC	Orphan and Vulnerable Children
PEPFAR	U.S. President's Emergency Plan for AIDS Relief
PFM	Public Financial Management

PLHIV	People Living with HIV
PMTCT	Mother-to-Child Transmission of HIV
PrEP	Pre-Exposure Prophylaxis
PWID	People Who Inject Drugs
RGC	Royal Government of Cambodia
SCN	Sor Chor nor (Circular of Royal Government of Cambodia)
SHI	Social Health Insurance
SHP	Social Health Protection
SOP	Standard Operating Procedure
TA	Technical assistance
THE	Total Health Expenditure
UHC	Universe Health Coverage
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
USD	US dollar

ABSTRACT

The HIV/AIDS epidemic in Cambodia has been moving into its 30th year since its first case was identified in 1991. The Royal Government of Cambodia (RGC), with financial and technical support from development partners and civil society organizations, has actively responded in order to contain the spread of the epidemic. Consequently, the country has successfully brought the HIV prevalence among the general population down to about 0.9 percent in 2006. It is also projected that the HIV prevalence will remain stable until 2015 with the prevalence around 0.6 percent.

To combat with this challenging epidemic of HIV/AIDS, financing mechanism is playing the crucial roles. The national strategies and goals, complemented by Cambodia's legal framework, is overall conducive in creating an enabling environment for the AIDS response. These achievements, while led by the Cambodian government, have been heavily dependent on external financial and technical support. International investments contributed largely financing for the AIDS response. The source of the financing and the distribution of the funds across different HIV services and beneficiaries is crucial.

Majority of AIDS spending is implemented by public sector providers since 2012. Domestic public funding starts playing a prominent role in the AIDS response. Considering a shrinking funding envelope from the international sources, there is a dire need to mobilize domestic sources from both public and private sectors; adopt innovative and integrated models with element of

prioritization; optimize allocations to enhance greater efficiency gains for the effective and sustainable AIDS response.

The present study seeks to provide answers to the following research questions:

- i. How is the financing of HIV/AIDS in different countries in the world?
- ii. What is the impact of financing of HIV/AIDS on the beneficiaries in different countries in the world?
- iii. What are the sources and amounts of HIV/AIDS financing in the study area over the period of study?
- iv. How is the utilization of HIV/AIDS financing over the period in the study area?
- v. What is the HIV/AIDS status, interventions, issues and challenges in the study area?
- vi. What are the effects of HIV/AIDS financing on the beneficiaries?

The objectives of the study are as follows:

- i. To describe HIV/AIDS financing in different countries in the world.
- ii. To analyze the impact of financing of HIV/AIDS on the beneficiaries in different countries in the world.
- iii. To know the sources, amount and utilization of HIV/AIDS financing in the study area over the period of time.
- iv. To discuss HIV/AIDS status, interventions, issues and challenges in the study area.

- v. To examine the impact of HIV/AIDS financing on the beneficiaries in the study area.
- vi. To provide suggestions for enhancing the HIV/AIDS finance and its better utilization so that maximum benefits will reach to the beneficiaries.

In the study, the following seven null hypotheses have been tested as follows:

Ho 1: HIV/AIDS finance is enough to meet the need of the national HIV/AIDS response.

Ho 2: There is no significant change in the awareness of the beneficiaries on HIV/AIDS between pre-financing and post-financing periods.

Ho 3: There is no significant change in the health conditions of HIV/AIDS patients between pre-financing and post-financing periods.

Ho 4: There is no significant change in income of the beneficiaries between pre-financing and post-financing periods.

Ho 5: There is no significant change in health expenditure of the beneficiaries between pre-financing and post-financing periods.

Ho 6: There is no significant change in saving amount of the beneficiaries between pre-financing and post-financing periods.

Ho 7: There is no significant change in assets of the beneficiaries between pre-financing and post-financing periods.

To achieve the objectives and test the hypothesis, the study has used both descriptive and quantitative approaches for verification to answer to the research questions. In descriptive approach, the study has relied on relevant literature, whereas, quantitative approach of the study has used tables, graphs, and statistical models for analysis of the data. Both primary and secondary data have been collected from both internal sources and external sources. Internal sources of collecting the data are in-house publication, databases, website, and library of the National AIDS Authority of Cambodia. External sources of secondary data are Ministry of Health, Ministry of Planning, Ministry of Economy and Finance, Royal Government of Cambodia, National Archives, websites of development partners, international organizations, civil societies relevant to HIV/AIDS response. Primary data have been collected from beneficiaries, PLHIV and selected key informants working in HIV/AIDS response's organizations. For collecting primary data, direct personal interview method and well-structured questionnaires have been used. In addition, the study has taken into account the information of the last nine years (from 2010 to 2019) of operations of the HIV/AIDS response in Cambodia.

First, the analysis of the reviews of the literature shows that the role of financing is crucial in HIV/AIDS response. The challenge of funding HIV treatment, prevention and care in middle- and low-income countries has been characterized by vocal advocacy, unique and innovative funding mechanisms, previously unseen levels of bilateral aid, and philanthropic donations whose scale have rivalled those of donor governments and multilateral institutions.

However, recent years have seen a regression. Donor funding for the HIV response in low- and middle-income countries declined. National governments in some low- and middle-income countries are now stepping up to fund their own responses, slowly filling some funding gaps and working towards a more sustainable response to HIV.

Secondly, the study has used the detail research methodology, which includes type of analysis, type of source of data, sample size and sampling, procedure of collecting data, statistical tools, and the coverage of the study and procedure of analyzing data.

Thirdly, the health care system in Cambodia is largely a fee-based system, it is important to know the source of the money used to pay for health care. One goal of the health care system is to have appropriate funding mechanisms for the population to acquire health care without deepening poverty. Particularly, Cambodia has made great strides in fighting the HIV/AIDS epidemic. Socio economic factors such as demographic, population change and distribution, labors, education, tourism, and economic growth are influencing the HIV/AIDS status. Health system, HIV/AIDS program and financing, is playing a significant role in responding to HIV/AIDS. Alongside with the decline in HIV prevalence among the general population, it has been noted that key populations (KP) such as entertainment workers (EW), drug users, transgender people (TG) and men who have sex with men (MSM) remains the most vulnerable groups that requires special attention in the provision of prevention, care and treatment services.

Fourthly, there is no doubt that the sources, amounts and the utilization of HIV/AIDS financing in Cambodia are needed to respond to HIV/AIDS work. Cambodia is one of seven countries globally to have achieved the 90-90-90 targets in 2017. This achievement has been heavily based on external source of funding that accounts for more than 80 percent of total spending since 2009. So far, despite the increase in domestic funding, Cambodia's AIDS response remains reliant on external sources of funding. External funding for the response has been declining since 2010, and the strong support from the Royal Government of Cambodia needs to continue steadily for sustainable response to this challenge. Furthermore, many government bodies, donors, and civil society organizations are working on prevention, treatment, care and support for the program of HIV/AIDS in collaboration and coordination ways.

Fifthly, the overall, the condom use data is as low as than 50 percent. This led to increase new HIV and STI infections.

Sixthly, the majority of the PLHIV around 98.73 percent accessed to public services for ART services, and the rest which is a very small portion were able to use the CSO's ART clinic which is normally a free-of-charge service. The ARV treatment show that 100 percent of infected respondents had access to ART services and almost 99 percent of infected respondents follow the prescription regularly and continuously. Around 36 percent of infected respondent's partner were also under ARV.

Seventhly, more than 94 percent of infected respondents received HIV and AIDS education and about 21 percent of PLHIV received support in their

descent job, while only one percent were provided housing support. However, the child education support was significantly high, almost 77 percent.

Eighthly, PLHIV respondents had high out-of-pocket expenditure for their health. More than 28 percent of PLHIV were able to use their own pocket for ART service. This would be an evidence to NAA and MoH for amending the policy and law to provide free ART services only those who cannot afford.

Ninthly, during 2010-2019, strong positive relationship between HIV/AIDS financing on the beneficiaries have been found. As such, the null hypotheses, i.e., H02: "The awareness on the hazardous of HIV/AIDS during the pre-financing and post-financing periods among the PLHIV has significant"; H03 "The health condition among the PLHIV has no significant different between the periods"; H04 "The changes of annual income among the PLHIV has a significant different between the two periods"; H05 "There is a significant difference between the OOPE in pre-financing and post-financing period done by PLHIV"; H06 "There was a significant difference between the annual saving amount during in pre-financing and post-financing period done by PLHIV" and H07 "There is a statically significant difference of asset value between pre-financing and post-financing period responded by PLHIV " are not rejected.

To conclude, based on the results of the research, the financing of HIV/AIDS and its impacts on PLHIV have faced a number of challenges, which are barring its responsibility to improve mutual accountability of all stakeholders. The challenges and problems faced by the financing of HIV/AIDS and its impacts

on PLHIV and affected people can be eliminated and solved with the implementation of following recommendations:

1. The National AIDS Authority should encourage relevant institutions, promote scaling down discrimination against PLHIV and KPs into relevant policy orientation and strategic plans.
2. The Government should provide a free of charge package of public health care services such as kidney testing, liver testing or general health care to PLHIV to reduce OOP for them.
3. As there is a significant decline in funding support for the prevention programs due to refocusing and withdrawal of funding from international donors, domestic leadership and commitments are needed to mobilize the funding for the sustainability of prevention interventions.
4. The long-term HIV financing strategic plan for Cambodia should be considered in both health and non-health sectors. Integration of HIV in health systems should be sustained to the response as well. In addition, some technical efficiency such as targeted interventions and combined services should also be considered. Furthermore, integration of HIV/AIDS in health insurance schemes such HEF, NSSF and others will allow providers to gather more revenue from the schemes.
5. Government and stakeholders including national and international organizations should define the roles in the HIV response in order to avoid confusion and overlap implementation.

6. Investment scenarios are needed to prevent new HIV infections and to achieve fewer AIDS-related deaths than current levels. Further economic benefits will arise as more and more people use ARV treatment, which will benefit in medium- and long-term cost savings.
7. Even though SCN 213 allows all PLHIV receiving IDPoo, most of them have not been achieved yet. Hence, relevant institutions should be responsible for expanding social protection to all PLHIV.
8. It is important to strengthen the relationship between institutions and those in the social protection sectors to ensure that social protection schemes are operating effectively. First of all, substantive discussions should be held to establish a common understanding of the manner of PLHIV as well as KPs in urban areas with the objectives of the social protection sector.
9. The national guidelines should be issued to direct the process for including all PLHIVs into the IDPoor program. Most importantly, the priority is to identify a process that upholds the confidentiality of PLHIV.
10. To achieve zero discrimination by 2025, the law on the Prevention and the Fight against HIV/AIDS Epidemic must be enforced due to PLHIV and KPs faced a discrimination while trying to have access to services.
11. The government should consider the importance of CSO's contributing role and guide them to perform their work effectively. Based on the SCN213, the government institutions should also have a clear plan in financing the provision of critical interventions by civil society in the context of declining donor funding moreover.

12. Higher attention should be paid to PLHIV when monitoring the CD4 and viral load level.
13. National AIDS Authority who are in charge of confronting against HIV and AIDS to achieve the Three Zeros: zero new HIV infections, zero AIDS-related deaths and zero discrimination in 2025 should take the lead in managing the resource mobilization to ensure that the right amount go to the right persons at the right time and place. Particularly, low cost with effective result should be adopted as the national policy and strategy stated.



CHAPTER I

INTRODUCTION

1. 1. Statement of the Problem

Financing is the process of providing funds for program activities to implementations for specific goals. Government entity and development partners are the sources of financing as they provide funds to public institutes, non-governmental organizations (NGOs), and Civil Societies to help them achieving their goals. The use of financing is also vital in socio-economic development. There are two main types of financing for implementing programs: internal financing and external financing. The internal financing is the source of financing from government collecting tax and non-tax revenue or capital investment revenue. Internal financing does not need to be paid back, but it relinquishes ownership to the taxpayers. External financing is loans, grants or concessional financing. Government has full legitimate to borrow and receive grants from outside such as commercial banks, World Bank (WB), Asian Development Bank (ADB) and development partners (DP).

The huge mobilization of resources for the global HIV and AIDS response over the course of the epidemic has been unprecedented in the history of public health. The challenge of funding HIV treatment, prevention and care in middle- and low-income countries has been characterized by vocal advocacy, unique and innovative funding mechanisms, previously unseen levels of bilateral (direct government to country) aid, and philanthropic donations whose scale have rivalled those of donor governments and multilateral institutions. However,

recent years have seen a regression. Donor funding for the HIV response in low- and middle-income countries declined by almost 13 percent between 2014 and 2015 (www.avert.org, 18.01.2017).

Competing funding demands such as humanitarian emergencies and refugee crises combined with ongoing fiscal austerity in many countries have meant a reduction in funds made available for the global HIV response. This has led to funding gaps that threaten to derail the response. National governments in some low- and middle-income countries are now stepping up to fund their own responses, slowly filling some gaps and working towards a more sustainable response to HIV (ibid).

In 2011, the Political Declaration on HIV and AIDS called on the international community to mobilize between USD 22 billion and USD 24 billion for the global HIV response in low- and middle-income countries by 2015. In 2015, an estimated USD 19 billion was made available. UNAIDS' new and ambitious Fast-Track approach commits to ending the global HIV epidemic as a public health threat by 2030. In order to achieve this, an estimated USD 26.2 billion will be required for the HIV response in 2020, steadily decreasing to USD 22.3 billion by 2030. As a result, there is a lot more emphasis on countries most affected by the HIV epidemic to finance their own responses and find more efficient and cost-effective ways to do so (ibid).

Despite rising financial commitments over the last few years, in 2015, total funding for the global HIV response decreased by eight percent on 2014 levels. This was primarily due to falling commitments from donor governments for the

first time in five years. In order to make significant progress, the investments to reach the end of AIDS as a global public health threat by 2030 need to be increased and front-loaded during the next four years (ibid).

Cambodia is an agrarian country located in Southeast Asia. It borders with Thailand to the west, Laos and Thailand to the north, the Gulf of Thailand to the southwest, and Vietnam to the east and the south. It has a total land area of 181,035 square kilometers. Cambodia has a tropical climate with two distinct seasons that set the rhythm of rural life. From November to February, the cool, dry northeastern monsoon brings little rain, whereas from May to October the southwestern monsoon carries strong winds, high humidity, and heavy rains. The mean annual temperature for Phnom Penh, the capital city, is 27°C (MOP and MOH, 2015).

The 1962 population census was the last official census to be conducted prior to 1998; it revealed a population of 5.7 million. The population census in 1998 recorded a population of 11.4 million with an annual growth rate of 2.5 percent. The 2004 Inter-Censal Population Survey showed that the annual growth rate had declined to 1.8 percent, with a total population of 13.1 million. The 2008 General Population Census (GPC) showed a further decrease in the annual growth rate to 1.54, with a total population of 13.4 million (ibid).

The proportion of the population living in rural areas is 80.5 percent; only 19.5 percent of the country's residents live in urban areas. The population density in the country as a whole is 75 per square kilometer, with approximately 1.3 million inhabitants living in Phnom Penh. The average size of the Cambodian

household is 4.7. The total male to female sex ratio is 94.7. The literacy rate among adult males is 84 percent, considerably higher than the rate among females (76 percent). Currently, it is estimated that the percentage of the total population living below the poverty line fell to 21.1 percent in 2010 and decreased further to 19.8 percent in 2011 (ibid).

Health outcomes have improved recently. The infant mortality rate has decreased from 45 per 1,000 live births in 2010 to 27 per 1,000 live births in 2014. The under-5 mortality rate decreased from 54 per 1,000 live births to 35 per 1,000 live births in the same period. Life expectancy at birth is 67.1 years for males and 70.1 years for females. General government expenditures on health per capita increased from US\$8 in 2008 to US\$11 in 2010, US\$13 in 2012, and US\$16 in 2014. The health status of the Cambodian people has steadily improved in a number of key areas. Nonetheless, challenges remain in many other areas (ibid).

The HIV/AIDS epidemic in Cambodia has been moving into its 20th year since the first case of HIV was identified in 1991. The Royal Government of Cambodia, with financial and technical support from development partners and civil society organizations, has actively responded in order to contain the spread of the epidemic. Consequently, the country has successfully brought the HIV prevalence among the general population down to about 0.9 percent in 2006 (NCHADS, 2010). It is also projected that the HIV prevalence will remain stable until 2015 with the prevalence around 0.6 percent (NCHADS, 2011).

At the same time, HIV/AIDS care and treatment services have been expanded significantly in order to keep up with the increasing demand from people in need of anti-retroviral treatment (ART). As a result, the ART coverage among those in need of ART in Cambodia has increased tremendously from just less than 10 percent in 2003 to approximately 80 percent by September 2007. By June 2011, 56 Adult OI/ART sites and 33 Pediatric AIDS Care services/sites were delivering care and ART to PLHIV. Data from the clinics showed that by the end of June 2011, 40,436 adult PLHIV and 4,286 children < 15 were receiving antiretroviral therapy (ART) (ibid).

The impact of the interventions would be difficult to assess if there was no HIV/AIDS related strategic information available, especially concerning the impact of HIV/AIDS interventions on the general population. When gathered, this information can be used for planning and managing a whole range of HIV/AIDS activities and programmes. However, the current HIV surveillance system only gathers data from high-risk groups and pregnant women visiting health centers for antenatal care and the Demographic Health Survey 2010 did not include an HIV testing component. Therefore, the prevalence of HIV among the general population needs to be estimated and projected based on all existing available data collected from other sub-populations (ibid).

One remarkable intervention was an intensive and multi-sectoral condom use program which promoted condom use in all brothels and entertainment establishments where transactional sex occurs, and provided sexually transmitted infections (STI) services for most at risk populations (MARP) and

the general population. A comprehensive Continuum of Care (CoC) model has been implemented nationally through NCHADS, which coordinates different services (OI/ART, VCT, laboratory support, homebased care and community support). Many NGOs, in partnership with the government, have developed services for Orphan and Vulnerable Children (OVC) and their affected families, but the need for more care and support remains high (KHANA, 2014).

The level of government investment in health and social services is still low, with a high reliance on out-of-pocket expenditure and donor funding for some programs. Government per capita expenditure on health was US \$7 in 2005. Private expenditure on health care was high by comparing at \$21.60 per capita (\$18.60 per capita out-of-pocket and \$3 per capita by NGOs). A challenge for the national response to HIV has been program development in the context of financial, human resource and infrastructure constraints in health and social services. The Cambodian health sector is generally weak, although this varies between urban and rural areas and among provinces. Some national programs, including National Centre for HIV/AIDS, Dermatology and STDs (NCHADS), have been able to make significant gains in providing quality health services, although this is hampered by the overall financial, human resource and infrastructure constraints. Utilization of public sector health services in Cambodia is low, with only 22 percent of people seeking initial treatment in the public sector. However, most HIV and AIDS prevention, care and treatment are provided by the public sectors, civil societies, and NGOs. As HIV/AIDS continues to spread in Cambodia, amounts of funding are increasingly provided

by government, and decreasingly by development partners including the Global Fund to Fight HIV/AIDS, Tuberculosis, and Malaria (GFATM), and United Nations Joint Programme on HIV/AIDS (UNAIDS), the present study will make an attempt to assess the financing of HIV/AIDS in Cambodia and its impact on the beneficiaries in the HIV/AIDS prone areas such as : Phnom Penh, Siem Reap, Battambang and Banteay Meanchey in the country.

1. 2. Research Questions

The present study seeks to provide answers to the following research questions:

- i. How is the financing of HIV/AIDS in different countries in the world?
- ii. What is the impact of financing of HIV/AIDS on the beneficiaries in different countries in the world?
- iii. What are the sources and amounts of HIV/AIDS financing in the study area over the period of study?
- iv. How is the utilization of HIV/AIDS financing over the period in the study area?
- v. What is the HIV/AIDS status, interventions, issues and challenges in the study area?
- vi. What are the effects of HIV/AIDS financing on the beneficiaries?

1. 3. Objectives of the Study

The objectives of the study are as follows:

- i. To describe HIV/AIDS financing in different countries in the world.

- ii. To analyze the impact of financing of HIV/AIDS on the beneficiaries in different countries in the world.
- iii. To know the sources, amount and utilization of HIV/AIDS financing in the study area over the period of time.
- iv. To discuss HIV/AIDS status, interventions, issues and challenges in the study area.
- v. To examine the impact of HIV/AIDS financing on the beneficiaries in the study area.
- vi. To provide suggestions for enhancing the HIV/AIDS finance and its better utilization so that maximum benefits will reach to the beneficiaries.

1. 4. Hypotheses of the Study

The study has tested the following null hypotheses:

Ho1: The amount of HIV/AIDS finance is enough to meet the need of the national HIV/AIDS response.

Ho2: There is no significant change in the awareness of the beneficiaries on the hazardous of HIV/AIDS between pre-financing and post-financing periods.

Ho3: There is no significant change in the health conditions of HIV/AIDS patients between pre-financing and post-financing periods.

Ho4: There is no significant change in income of the beneficiaries between pre-financing and post-financing periods.

Ho5: There is no significant change in health expenditure of the beneficiaries between pre-financing and post-financing periods.

Ho6: There is no significant change in saving amount of the beneficiaries between pre-financing and post-financing periods.

Ho7: There is no significant change in assets of the beneficiaries between pre-financing and post-financing periods.

1. 5. Significance of the Study

This study provides detail information on the financing of HIV/AIDS in Cambodia. It also generates invaluable information on the impact of HIV/AIDS finance on the beneficiaries in the study area.

The findings of the study benefit the policy makers of Royal Government of Cambodia, relevant institutions and development partners in strengthening the system of resource allocation to finance HIV/AIDS programmes properly. This study also provides useful information to non-governmental organizations (NGOs) and civil organizations (CSOs), which help them in the implementation of their projects and activities successfully.

The beneficiaries are better aware of the HIV/AIDS status in Cambodia and join willingly to combat HIV/AIDS epidemic through prevention, care, treatment, and support for community activities.

Further, the academic community are benefited considerably from this research. Other researchers may use this research to investigate further issues on financing of HIV/AIDS and its impact on the beneficiaries.

1. 6. Coverage of the Study

The study has been planned to capture all HIV and AIDS financing data over the period of the ten fiscal years (2010-2019) from all agencies which have provided and received HIV and AIDS funds in Cambodia including both national and external funding in the hot spot areas such as Phnom Penh, Siem Reap, Battambang and Banteay Meanchey. This study has some limitations such as several key informants were also not available for interviews. Response to the survey questionnaire from the key populations (KPs) were limited, most of them were not contactable for a variety of reasons while using secondary data because all the necessary secondary data may not be available. In addition, the study intended to take all agencies in Cambodia but practically, some agencies like some local non-governmental organizations and civil society organizations that are small or not registered are missed.

1. 7. Scope and Limitations of the Study

The study is confined to financing of HIV/AIDS over the period of ten fiscal years and its impact on the beneficiaries in Cambodia. Further, the study has taken the views of 30 key informants and only 395 beneficiaries living in the hot spot provinces/cities, Phnom Penh, Siem Reap, Battambang and Banteay Meanchey. The study would have been better if the opinions could have been taken from all the beneficiaries of 25 provinces/cities and all the development partners, civil societies, and government institutions working on HIV/AIDS in Cambodia.

1. 8. Layout of the Study

The research study is composed of seven chapters, which are as follows:

Chapter I: Introduction

The first chapter introduces the subject matter of the study. This chapter includes statement of the problem, objectives, hypotheses, significance of the study, and scope and limitations of the study.

Chapter II: Literature Review

The second chapter reviews the theoretical and empirical evidences relating to HIV/AIDS financing and its impact.

Chapter III: Research Methodology

The chapter explains the detail research methodology of the study. This includes type of analysis, type and source of data, sample size and sampling, data gathering procedure, statistical tools, procedure of analyzing data and coverage of the study.

Chapter IV: Socio-Economic Profile of the Study Area

The chapter discusses the socio-economic profile of the study area in particular, and the country in general.

Chapter V: Financing of HIV/AIDS in the Study Area

The chapter discusses the details of the sources, amounts and the utilization of HIV/AIDS financing over a period of time in the study area. Besides, the chapter

also highlights HIV/AIDS status, intervention, issues and challenges in the study area.

Chapter VI: Data Presentation and Analysis

This chapter analyzes the profile of the respondents and examine the impact of HIV/AIDS financing on the beneficiaries.

Chapter VII: Conclusions and Recommendations

The last chapter summarizes the main findings of the study, draws conclusion and provides recommendations on the basis of the findings of the study.



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CHAPTER II

LITURATURE REVIEW

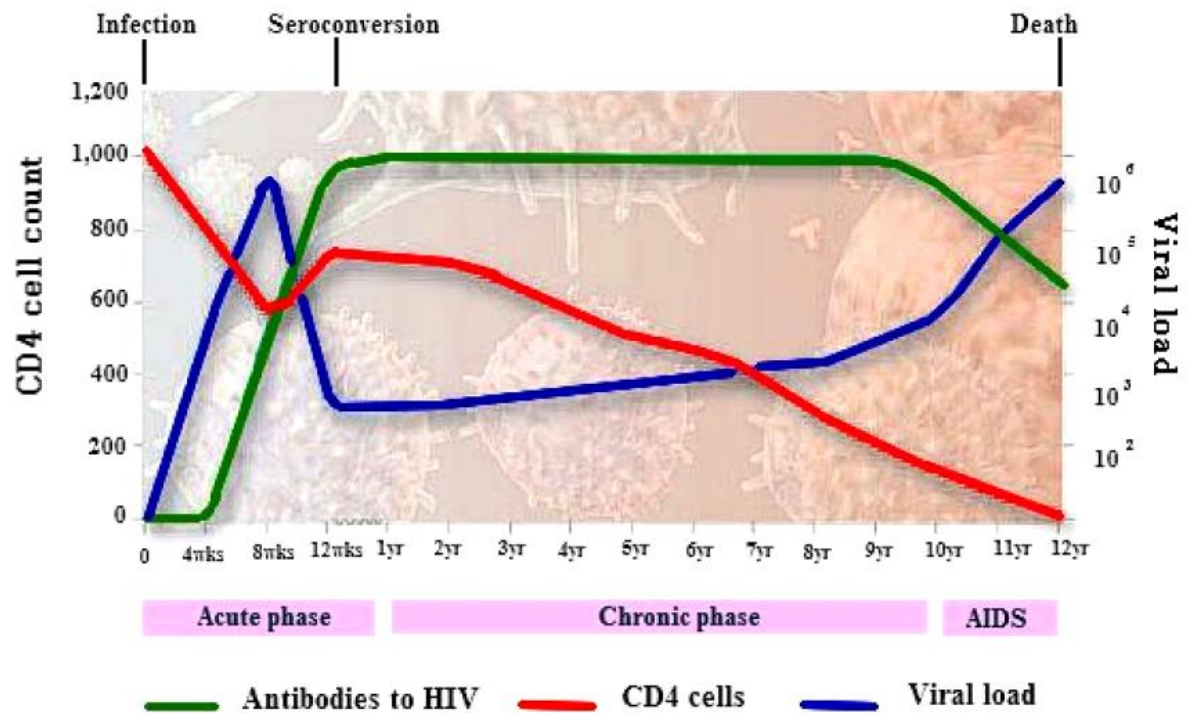
In this chapter, various literatures relevant to the topic are reviewed. All the reviews are classified into five sections. The first section deals with background of HIV/AIDS. The second section discusses about the concept of financing. The third section is about the types of financing. And the fourth section highlights the need for financing.

The fifth section focuses on financing of HIV/AIDS and types of financing of HIV/AIDS. The sixth section is about the sources of financing of HIV/AIDS. The seventh section focuses on selected empirical reviews of similar researches.

2. 1. Background of HIV/AIDS

AIDS is used as an abbreviation for the Acquired Immune Deficiency Syndrome. This disease was diagnosed for the first time in the United States in 1981. A retro-virus which causes the AIDS disease, called HIV (Human Immunodeficiency Virus), was identified two years later in 1983. While entering the blood system, the retrovirus attacks T-lymphocytes CD4 (a type of white blood cells), which co-ordinate the formation of antibodies and the immune system of a human body, and at the same time the retrovirus changes the DNA structure of the T- lymphocytes. Existing antiretroviral medicines such as AZT (Azidothymidin) can decelerate a process of replication of mutated white blood cells. However, they are not able to prevent the final failure of the immune system (Kasova, 2005).

Figure 2.1: The Usual Course of HIV/AIDS, from Infection to Death



(CD4 cells are measured by the number of cells per cubic milliliter of blood, while the viral load is expressed as the number of copies of HIV counted per milliliter of plasma)

Source: Kasova, 2005.

At the beginning, an HIV infection causes a pyretic illness, lasting between one to two weeks. After the first acute period lasting for about three months, the human body produces enough antibodies to temporarily reduce the amount of the virus in the blood (Figure 2-1). During the next chronic stage infected people may stay without any symptoms for many years. However, after this period, the number of antibodies finally begins to drop while the amount of the HIV virus gradually increases. The patient then suffers for about two years from the so-called AIDS related complex, which typically includes high fever,

gastroenteritis, weight loss, lymphadenopathy and weakness. This is later followed by more severe opportunistic infections finally causing death. The most common opportunistic infections are typically TB, acute pneumonia, herpes infections (especially Herpes zoster), oral and lung candidiasis, Kaposi's sarcoma, cancer and other severe bacterial infections. While in developed countries HIV/AIDS is becoming a chronic disease, due to antiretroviral treatment and holistic medical care, with which a patient can live for over ten or twenty years, in the countries of the global South, the span between infection and death is usually only five to eight years (ibid.).

Two major strains of the HIV retrovirus, which differ by virulence and infection pattern, were identified so far. HIV can be divided into two main groups of viruses, as HIV-1 and HIV-2. The HIV-1 strain is the most common form of the virus and responsible for the majority of infections world-wide and it is the most common type of HIV retrovirus in Southern Africa. HIV-2 is most commonly found in West Africa but is being gradually displaced by HIV-1. HIV-1 can be subdivided into at least nine major strains, or subtypes, as A, B, C, D, F, G, H, J and K. All of these subtypes are classed as group M (or main) by virologists. In North America, Western Europe, Australia and Japan, the most common subtype of HIV-1 is subtype B. There are also six sub-subtypes of HIV-1, including A1 to A4, F1 to F2. There is another group of HIVs called group O (outlier). There are also many circulating recombinant forms (CRFs), at least 48 of them, such as AE, AB, and BC. Due to travel, tourism and immigration, other strains and CRFs have been appearing in these countries and regions (Hosein, 2014).

2. 2. Concept of Financing

Financing means asking any financial institution (bank, credit union, finance company) or another person to lend somebody money that somebody promise to repay at some point in the future. In other words, when one buys a car, if he/she does not have all the cash for it, the dealer will look for a bank that will finance it for you. Upon approval, the bank will pay the car dealer the money for the car, and then they will send you a bill each month. The bank will lend him/her this money if he/she agree to pay interest on top of the money lent to you. In other words, financing is borrowing money with a promise to repay that money and some additional fee, or interest, over a period of time (www.study.com, 31.07.2017).

According to experts, financing is a simple task of providing the necessary funds (money) required by the business of entities like companies, firms, individuals and others on the terms that are most favorable to achieve their economic objectives. Based on view of academicians, finance is the procurement (to get, obtain) of funds and effective (properly planned) utilization of funds. It deals with profits that adequately compensate for the cost and risks born by the business (www.kalyan-city.blogspot.com, 31.07.2017). It is the act of providing funds for business activities, making purchases or investing. Financial institutions and banks are in the business of *financing* as they provide capital to businesses, consumers and investors to help them achieve their goals (www.investopedia.com, 22.08.2017).

Finance is a broad term that describes two related activities: the study of how money is managed and the actual process of acquiring needed funds. It encompasses the oversight, creation and study of money, banking, credit, investments, assets and liabilities that make up financial systems. Many of the basic concepts in finance come from micro and macroeconomic theories. One of the most fundamental theories is the time value of money, which essentially states that a dollar today is worth more than a dollar in the future. Since individuals, businesses and government entities all need funding to operate, the field is often separated into three main sub-categories: personal finance, corporate finance and public finance (www.investopedia.com, 16.01.2019).

Finance is a field that deals with the study of investments. It includes the dynamics of assets and liabilities over time under conditions of different degrees of uncertainty and risk. It can also be defined as the science of money management. Finance aims to price assets based on their risk level and their expected rate of return. Finance can be broken into three different sub-categories public finance, corporate finance and personal finance (WIKIPEDIA, 22.08.2018).

Financing means asking any financial institution (bank, credit union, finance company) or another person to lend someone money that he/she promises to repay at some point in the future. In other words, when someone buy a car, if he/she do not have all the cash for it, the dealer will look for a bank that will finance it for them. Upon approval, the bank will pay the car dealer the money

for the car, and then they will send them a bill each month. The bank will lend them this money if you agree to pay interest on top of the money lent to them. In other words, financing is borrowing money with a promise to repay that money and some additional fee, or interest, over a period of time (www.study.com, 16.01.2019).

2. 3. Types of Financing

2. 3. 1. Internal Financing

Internal sources of finance are the sources of finance or capital for business firms which are generated by the business itself in its normal course of operations. The key characteristic is that there is no outside dependency for catering the need of capital. Retained profits/earnings are called the internal source of finance for a business for the simple reason that they are the end product of running a business. The phenomenon is also known as 'Ploughing Back of Profits'. Retained profits can be defined as the profit left after paying a dividend to the shareholders or drawings by the capital owners (www.efinancemanagement.com, 20.10.2017).

In the theory of capital structure, internal financing is the name for a firm using its profits as a source of capital for new investment, rather than distributing them to firm's owners or other investors and obtaining capital elsewhere. It is to be contrasted with external financing which consists of new money from outside of the firm brought in for investment. Internal financing is generally thought to be less expensive for the firm than external financing because the firm does not have to incur transaction costs to obtain it, nor does it have to

pay the taxes associated with paying dividends (WIKIPEDIA, 22.08.2017). In order to grow small business into a larger one, it is important to invest in it. And to invest in business, it is necessary to access to finance. Internal financing is the name for a firm using its profits as a source of capital for new investment, rather than distributing them to firm's owners or other investors and obtaining capital elsewhere. It is to be contrasted with external financing which consists of new money from outside of the firm brought in for investment. Internal financing is generally thought to be less expensive for the firm than external financing because the firm does not have to incur transaction costs to obtain it, nor does it have to pay the taxes associated with paying dividends. Many economists debate whether the availability of internal financing is an important determinant of firm investment or not. A related controversy is whether the fact that internal financing is empirically correlated with investment implies firms are credit constrained and therefore depend on internal financing for investment (www.ipfs.io, 15.01.2019).

Internal sources of government financing include charges, fees and earnings, fines, regulatory taxes and general taxes. Charges and fees are levied for publicly provided commodities (i.e., goods and services) which are not (pure or nearly pure) public goods. It is efficient cost social option for socially desirable commodities to be provided publicly if either the private sector would have underprovided them or if it can provide them only at a greater social resource cost than the government. If this requirement met, then the government should collect charges or fees for commodities it provides from those who benefit from

them. Earnings of the government, other than the sort of charges and fees consist of net revenues from the sale of commodities by public sector undertakings. Regulatory taxes are taxing the government should levy on privately provided or privately consumed commodities when there are negative externalities or spillovers which lead to the private cost of provision or consumption being below the social cost. Since the government gets revenue from such taxes while, at the same time bringing private costs of provision or consumption in line with social costs by "making the polluter pay", such taxes have a double benefit (Arindam, 2004).

2. 3. 2. External Financing

External financing for corporation

External financing is the phrase used to describe funds that firms obtain from outside of the firm. Small business owners often need to find sources of external financing in order to fund or grow operations. External financing comes in two different forms: debt or equity. Debt financing includes bank loans, promissory notes and credit card purchases, while equity financing occurs when the business sells off shares of its ownership to outside sources. Bank loans is one of the primary sources of external financing for small businesses is bank loans. The company submits a loan application to a bank, savings and loan or other financial institution. The application includes the purpose of the loan, the amount requested and information on the company's credit history. The bank analyzes the data, approves or declines the loan application and determines the interest rate on the loan. If the company fails to repay the principal and

interest within the prescribed time period, the bank can claim any collateral the company provided to secure the loan. Instead of applying for a bank loan, small companies can also issue bonds for debt financing. For companies involved in industrial development, the Industrial Development Revenue Bond (IDRB) program works with local government agencies to pay for large industrial projects. Companies that receive IDRB approval are allowed to issue bonds and make them available to private investors. The company must repay the principal and interest on the bond to the local development agency, which disburses the proceeds to the investors (www.smallbusiness.chron.com, 20.10.2018).

Companies that would prefer to avoid the liabilities that come with debt financing can obtain additional capital by equity financing. One source of equity financing is the so-called "angel investor." These investors contribute to improving the equipment capital, marketing strategies and industry knowledge base in exchange for small portions of equity of the target company. In return, angel investors look for companies with high potential and above-average rates of return on investment (ROI). Another popular form of equity financing is venture capital. Venture capitalists find companies with promising growth potential and offer to invest in exchange for a substantial share of the ownership. Venture capital firms have access to the money and expertise many growing firms need to reach their full potential. Since venture capital firms bring both capital and expertise to the business, they also often place their industry experts in control of their target firms (ibid.).

In general, external financing includes equity investment and loans. Equity investment means that money is accepted from a private investor or group in exchange for partial ownership of the business. This funding source is commonly used by small-business owners who want to quickly grow the business. One type of external debt financing is long-term debt. Long-term loans typically include any debts that you expect to take more than a year to repay. Commonly, long-term loans are used to purchase buildings, equipment and other major assets. An advantage of long-term financing is that one can repay the loan over an extended period, which minimizes the monthly payment obligation. Some businesses also make use of shorter-term loans and lines of credit to fund ongoing operations. A short-term loan means one borrows money and typically repay it within a year. This loan scenario could apply when you have an emergency need (Neil, 20.10.2018).

External financing for government

External sources of government include borrowings, grants or concessional financing. Borrowings referred to funds obtained from repayable sources such as loans secured by the government from financial institutions and other sources, both domestic and foreign, to finance government projects and activities. The government borrows to provide for the requirements of the projects and to support priority programs and projects. Relying on domestic resources, which are funds obtained from sources within the country, will limit government's capacity to provide the needed support. Domestic resources are insufficient to finance priority programs and projects. Foreign borrowings, on

the other hand, are funds obtained from sources outside the country, such as Asian Development Bank (ADB), World Bank (WB), Overseas Economic Cooperation Fund (OECF) and the International Monetary Fund (IMF). Financing from external (foreign) sources is considered public when the funds flow through recipient governments (www.bing.com, 25.10.2017).

To finance deficit: when government plans a deficit budget, it resorts to borrowing to finance it.

2. 4. Needs for Financing

Financing represents the use of another individual money to start or build a small business. Financing includes debt and equity investments. Debt financing are traditional loans from a bank or lender. Equity financing represents direct investments from venture capitalists or private investment firms. Business owners can use financing during the startup phase of a company or during normal business operations. Small businesses with a strong track record or financial history can have a better opportunity to secure external financing. Business owners use business financing if they have low personal wealth. Startup companies can require copious amounts of upfront financing. Business owners use financing to avoid spending their personal income on risky business startups. They can also supplement their low personal wealth with business loans or investment. This gives business owners more capital for starting and running a business. Business owners may need to provide a personal guarantee for business loans, regardless of their personal wealth situation. External financing is needed if companies require major asset purchases. Major assets

include facilities, equipment the owner vehicles needed to complete business operations. Business owners use external financing to avoid making personal investments on these items. Small businesses can also have low available capital. Financing allows business owners to retain their company's capital and use outside debt on investments to purchase necessary business assets (Osmond, 19. 10.2018).

For the heavily indebted poor countries (HIPC) and low-income development countries, external assistance is primarily comprised of grants, concessional loans and export credits from official bilateral and multi-lateral sources. In contrast, the middle-income developing countries are not able to access these types of external finance. Instead, they are reliant on non-concessional loans and credits from bilateral and multilateral agencies. In addition, the more creditworthy middle-income countries may also be able to borrow syndicated credits from commercial banks or issue bonds on the international capital markets. For HIPC government to prepare their own national strategy for external assistance, they will need to go beyond these issues and analyze their experience of external assistance, how it has been delivered and the constraints to this delivery, as well as its impacts on the macro-economy and poverty reduction spending. In addition, HIPC government need to analyze future options for external assistance and design a national strategy enabling long-term sustainability of external assistance for poverty reduction. The main sources of external assistance for most developing countries are official, that is multilateral and bilateral donors and creditors. Many multilateral institutions and bilateral government have two financing windows; a concessional window

for aid finance and a non-concessional window for export credits or market-related loans. Aid flows are also provided by non-governmental organizations (NGOs), charities and religious, scientific, educational and cultural organizations. Many developing countries are also able to access non-concessional trade finance from private sources such as banks, or exporters, through in most cases a developed country government guarantees this finance. In addition, the most creditworthy developing countries can borrow directly from commercial banks or issue bonds on the international capital markets (Johnson & Martin, 2004).

2. 5. Financing of HIV/AIDS

Innovative new financing mechanisms such as The Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund), the US President's Emergency Plan for AIDS Relief (PEPFAR) and UNITAID have recently been developed to ensure sustainable international financing for HIV/AIDS and other diseases. Based on the realization that it will be impossible for most low- and middle-income countries to fund the response from domestic sources, these new instruments channel substantial amounts of international funding to affected countries. Together, these new mechanisms account for the majority of funding available to countries to combat diseases such as HIV/AIDS, TB and Malaria. An emphasis on performance-based funding requires that countries develop detailed and accurately costed proposals in order to access funding from the Global Fund and PEPFAR. Recent efforts to better integrate this funding with national planning processes (through the National Strategy Applications (NSA)

process of the Global Fund) have also elevated the importance of developing well designed and accurately costed national strategies for HIV/AIDS. Working with partners, WHO supports countries to prepare accurately costed national strategies and proposals for funding through the Global Fund and other international financing mechanisms. The WHO HIV/AIDS Department works within the UNAIDS ASAP mechanism to support the development of costed national strategies for HIV/AIDS and provides tools and technical support for developing costed proposals. In order to provide better information for decision-making, the WHO HIV/AIDS Department follows developments in international financing of HIV/AIDS programmes, supports policy development and documents best practices in financing the health sector response to HIV/AIDS (www.who.int, 16.01.2019).

Funding requirements vary widely with countries and contexts. There is a wide range of options for funding. Many HIV testing and counselling sites receive funding from a combination of sources.

Local and central government- Many national programmes are largely funded by government and form part of an integrated comprehensive HIV programme. In other settings the government may provide some funding or may supply and fund or second staff or pay for or supply commodities, e.g., test kits.

Universal health coverage, i.e. ensuring all people obtain the health services they need without suffering financial hardship, has emerged as the health system foundation for the post-2015 global strategy for HIV, viral hepatitis,

and sexually transmitted infections. Essential elements of universal health coverage include health financing, essential medicines and health products, national health policies, health workforce, health statistics and information systems, and service delivery. Health financing considers how funds are mobilised, pooled, and invested within health systems. For example, in some low- and middle-income countries, HIV/AIDS funds could be mobilised from tax revenue, social health insurance, the Global Fund (GFATM), and/or the United States President's Emergency Plan for AIDS Relief (PEPFAR). These domestic and external funds are sometimes pooled within national programmes and then invested into services, medicines, and diagnostics needed for epidemic control. Traditionally, governments use input-based financing (IBF), wherein commodity, infrastructure, and human resource need is forecasted, to inform budgeting within national strategic plans. In recent years, financial incentives have been introduced in some countries to improve service delivery. There is a wide range of terminology used for financial incentives. Results-based financing broadly considers the use of incentives for clients or the health system. Conditional cash transfers generally consider the use of financial incentives to clients for certain behaviours. For example, studies have provided conditional cash transfers for changes in sexual behaviour, receiving HIV testing, linking to care, and achieving viral suppression (Suthar et al., 2017).

Bilateral and multilateral donors -Bilateral and multilateral donors remain a major source of funding for HIV interventions in most developing countries. Access to funds depends on local criteria.

International agencies -GFATM and private foundations have become major sources of new funding for HIV interventions. Governments or NGOs can access funding for HIV testing and counselling services from these organizations.

Private sectors -Increasingly, the offer of testing and counselling is considered a part of workplace medical schemes or voucher schemes are used to fund HIV testing and counselling for employees at independent sites. Private medical services frequently offer HIV testing with or without counselling to clients. In these circumstances, the clients have to pay the full cost of testing. This is beyond the reach of many people.

User fees/cost recovery-Some NGOs charge clients a small fee for HIV testing and counselling services. This is usually a fraction of the actual costs and in practice does not contribute significantly to the costs of the services. It is recognized that if more people are given the opportunity to know their HIV status the testing and counselling services will not be sustainable and will rely on external funding, at least in the short term.

Local fundraising-Some testing and counselling services may be able to engage in local fundraising or to raise funds by providing training or other services for other organizations or by renting out temporarily available facilities and services to other bodies.

Domestic Resources- Domestic funding is HIV spending allocated by country governments in their national budgets. This represents an increasingly significant and essential means of funding the global HIV and

AIDS response. Historically, the HIV response has been largely funded by international donors and governments, but low- and middle-income countries are now beginning to lead on efforts to tackle the HIV epidemic (World Health Organization, 22.08.2018).

2. 6. Empirical Reviews

So far, several studies and assessment on financing of HIV/AIDS and its impact on the beneficiaries have been done by different organizations and authors in order to find out the weak and strong points of the research. Some selected empirical reviews on this research are highlighted as follows:

2. 6. 1. Financing of HIV/AIDS

During the last decade, domestic resources have been instrumental in the efforts against HIV. Low- and middle-income countries invested a total of USD 43.5 billion from domestic public sources in the last decade, reaching USD 6.6 billion in 2010, a three-fold increase in domestic funding from the USD 2.15 billion recorded in 2000. The total amount from domestic sources and spent in the 125 countries analyzed represents almost one half of the funding available for HIV in these countries during the last decade. In 2010 alone, low- and middle- income countries (LMIC) contributed more than USD 7.6 billion from public (USD 6.6 billion) and private sources (USD 1.0 billion) to their domestic HIV responses, while international funding from bilateral and multilateral organizations and the philanthropic sector contributed a total of USD 7.5 billion for a combined amount of USD 15.1 billion in 2010. This analysis also found that GDP and HIV prevalence are positively associated with the level of

domestic spending from public sources. A large body of evidence shows a strong and positive correlation between national income and national expenditures on health care and is a consistent finding of research (www.bmcpublichealth.biomedcentral.com, 06.02.2018).

In most countries the domestic HIV response is still not commensurate with the magnitude of the epidemic. Governments in low-income countries should mobilize domestic resources and analyze the convenience to implement innovative financing mechanisms such as special levies on currency and financial transactions, selling franchised products and services, mobile phone voluntary solidarity contribution, excise tax on tobacco, alcohol and unhealthy food. Still, some low-income countries cannot afford to fully support patients on treatment from domestic resources alone and will need external support. There are several opportunities to increase public spending for the HIV response to reach the universal access targets for prevention, treatment and care. First, governments can create fiscal space through fiscal instruments such as external grants, domestic revenue mobilization, deficit financing, reprioritization and raising efficiency of current expenditures. There may be substantial opportunity for improving the efficiency of AIDS services, by providing more services with existing resources. A recent study evaluating efficiency of national HIV programs in 68 low- and middle-income countries found only a moderate efficiency of 49.8 percent in implementing AIDS programs. Countries would also explore improving their capacity to collect progressive and fair taxes from their citizens. Middle-income countries, especially, have more room to create a sustainable tax base. The World Bank

estimates that at least 30 percent of GDP is needed to sustain a well-functioning state, but some government budgets are below 20 percent of GDP (ibid.).

Analysis of data from the G7 and other members of the Development Assistance Committee (DAC) indicates that the combined financial commitments for HIV/AIDS in low- and middle- income countries, including Global Fund contributions, reached an estimated USD 4.3 billion in 2005, compared to USD 3.6 billion in commitments in 2004. Most was provided through bilateral channels (USD 3.5 billion or 81 percent); the remainder was provided through contributions to the Global Fund (USD 813.6 million or 19 percent; amount adjusted to represent an estimated HIV/AIDS share). The G7 accounted for 85 percent of all funds committed for HIV/AIDS by members of the DAC, a greater share than their share of the DAC's Official Development Assistance (ODA) overall. Certain other members of the DAC also provided substantial HIV/AIDS commitments in 2005, particularly the Netherlands and Sweden. Ireland's international HIV/AIDS effort was unusually high among smaller assistance funders. The United States committed the highest amount of funding (USD 2.1 billion or 49 percent) to HIV/AIDS in 2005, including the highest bilateral commitment (USD 1.9 or 55 percent of bilateral commitments made by the DAC) and highest contribution to the Global Fund (USD 198 million or 24 percent of Global Fund contributions by the DAC, adjusted by 57 percent). The United Kingdom committed the second highest amount in 2005 (USD 688 million or 16 percent). Russia, also a member of the Group of Eight (G8), is a net recipient of international assistance overall and for HIV/AIDS specifically. However, Russia has provided funding to the Global Fund, including USD 10

million in 2005, and USD 25 million cumulatively (figures not adjusted to represent an estimated HIV/AIDS share). In addition, Russia recently announced its intention to significantly step-up funding for its domestic HIV/AIDS effort in 2006. Estimated disbursements of bilateral assistance from the DAC were USD 2.7 billion in 2005, or 77 percent of the USD 3.5 billion committed in that year, with the G7 accounting for 81 percent of DAC bilateral disbursements. As with commitments, the U.S. and U.K. also provided the two highest amounts in bilateral disbursements in 2005. Disbursements generally vary from commitments. Some donors disbursed less than their share of commitments. The U.S., for example, accounted for 41 percent of estimated bilateral disbursements by DAC governments in 2005 compared to 55 percent of DAC commitments (Kates, 2006).

In some cases, donor disbursements were greater than commitments reflecting the fact that disbursements in any given year represent a combination of current and prior year commitments. As mentioned above, disbursement rates are a function of differences in donor requirements about when funds must be committed, grant and contracting rules, program start-up factors, and assessments of recipient country absorptive capacity and program performance. The U.S. disbursement rate for PEPFAR, for example, has been increasing over the course of its implementation, as planned. When bilateral disbursements are combined with Global Fund contributions, an estimated USD 3.5 billion was made available by the DAC in 2005 (compared to USD 4.3 billion in commitments).

While most funding for HIV/AIDS by DAC governments in 2005 was provided through bilateral channels (81 percent), versus the Global Fund (19 percent), the mix varied by donor. Italy, France, and Canada provided the majority of their funding through the Global Fund. The remaining donors were more likely to provide HIV/AIDS assistance through bilateral channels, particularly the U.S. and the U.K. These distributions reflect an adjusted Global Fund contribution by donors (57 percent to represent an estimated AIDS share). If donors' full contribution were used, including funding used by the Global Fund for TB and malaria programs, the proportion of funding channeled through the Global Fund, relative to bilateral funding, would be greater. In addition, because the Global Fund is a new financing vehicle and because of the timing of Global Fund contributions, a one-year snapshot may not necessarily reflect the relative contributions of donors over time. As demonstrated, when using cumulative pledges and contributions, the share represented by each donor changes compared to their share of contributions in a given year (ibid.).

A Case Study by China Health Economics Institute and the World Bank (2007) shown that the Chinese government's spending on HIV/AIDS has increased dramatically in recent years. It only accounts, however, for a part of the total resources dedicated to HIV/AIDS. The fragmented nature of HIV/AIDS financing makes it difficult to register the flows of funds in a holistic and useful manner. More importantly, there are questions over the extent to which increased resources for HIV/AIDS have been allocated and utilized in an equitable and effective manner in order to achieve the intended outcomes specified in the Second Five Year Action Plan for HIV/AIDS Prevention and

Control (2005-2010). This study was designed to gain a better understanding of possible impediments to an effective local HIV/AIDS response. It mainly focused on: (a) assessing different aspects of HIV/AIDS financing such as sources of financing, HIV/AIDS related services and their providers being financed, and beneficiaries; (b) estimating households' out of pocket spending on HIV/AIDS; and (c) identifying bottlenecks preventing the effective and equitable utilization of existing HIV/AIDS resources (The World Bank, 2007).

The structure for HIV/AIDS financing in Guangxi, as illustrated by the case of Luzhai county, seems to be inequitable and rely excessively on out of pocket (OOP) spending. Total annual HIV/AIDS expenditure in Luzhai in 2005 was 7.04 Yuan per capita, (representing 2.58 percent of the total annual health expenditure). About 62 percent of this AIDS spending was out of pocket (OOP), representing a large burden on HIV/AIDS patients. PHA's average annual expenditure for inpatient HIV/AIDS treatment and care alone was 8,100 Yuan in 2005, which was 2.67 times higher than the net average annual income per capita of Luzhai's population. This is clearly unsustainable from a patient's perspective. Surprisingly, the share of OOP is particularly high for prevention spending even though much of that spending could be considered as contributing to a public good. Government contributions (all levels) amounted to only 28.4 percent of the total HIV/AIDS expenditure. Of this 28.4 percent, more than one half were contributions of provincial, prefecture and local governments; while central government contributions represented only 11 percent of total HIV/AIDS spending. This allocation of responsibility for HIV/AIDS financing is not in line with the Chinese Government's principle that

HIV/AIDS should be financed by different sources, of which government's input is the prime source' although it does reflect its maxim that the responsibility is to be shared by different levels of government. The effectiveness of Government's expenditure on HIV/AIDS can be increased significantly by improving both allocative and technical efficiency. The allocation of spending does not correlate well with evidenced-based policy priorities. While spending on prevention activities correctly accounts for the bulk of total spending (69.5 percent), the distribution of spending across different types of interventions does not reflect the priority that should be given to interventions among high-risk groups. Spending on STI prevention and control, PMTCT and M&E are too low, while that on IEC is too high. Indeed, IEC consumed the largest share of government spending on HIV/AIDS, even though the characteristics of the Guangxi epidemic and cost-effectiveness analysis suggest that the most effective use of resources would be to support low-cost interventions (such as NEP and STI prevention and control) among high-risk groups in high prevalence areas. The fact that only 0.3 percent of HIV/AIDS expenditure was spent on M&E of ongoing projects suggests that M&E is not systematic. In this context prospects for further developing evidence-based policies targeted to the specific characteristics of Guangxi's AIDS epidemic are not good (ibid.).

In 2014, 44 countries had 75 percent or more of their HIV financing needs provided by external sources. 96 percent of Mozambique's and 86 percent of Zimbabwe's HIV response were financed by international assistance. International HIV funding from donor governments is provided through both bilateral and multilateral channels. In 2016, donor governments provided USD

seven billion for HIV – a seven percent decline on 2015 levels (USD 7.53 billion). This decline was due to a number of factors including the depreciation of donor currencies, delays in bilateral disbursements by the United States of America (USA) (the biggest donor), and the front-loading of pledged contributions to the Global Fund. However, even accounting for these, donor government spending had continued to fall consecutively since 2014. Although the USA accounted for the majority of bilateral and multilateral funding from donor governments in 2016, governments in 2016 (USD 4.9 billion), where standardized by the size of its economy the country ranked third. Contributions by the USA were followed by the United Kingdom (UK) (USD 645.6 million), France (USD 242.4 million), the Netherlands (USD 214.2 million) and Germany (USD 182 million). Since 2006, these five countries have accounted for roughly 80 percent of all HIV funding from donor governments (*Jose Izazola*, 22.8.2018).

The majority of donor government funding was distributed directly to recipient countries in 2016 (74 percent). Although 'bilateral' funding fell by USD 108 million in 2016 compared to the previous years, this was offset by disbursements of USD 69 million from the USA governments. The President's Emergency Plan for AIDS Relief (PEPFAR), USA: One source of bilateral funding is the President's Emergency Plan for AIDS Relief (PEPFAR) which started as a five year (2003-2008), USD 15 billion committed by the USA government to tackle the global HIV and AIDS epidemic. Since 2003, PEPFAR has spent USD 70 billion on programmes globally to combat HIV and AIDS, tuberculosis, malaria and other opportunistic infections. PEPFAR is the largest healthcare

initiative to be launched by one country to address one disease.²⁰ PEPFAR currently funds ART treatment for nearly 11.5 million people, up from the 50,000 individuals who were receiving ART in sub-Saharan Africa before it was set up.

In 2016, a total of USD 1.5 billion international HIV assistance was provided through multilateral organizations such as the Global Fund, UNITAID and other United Nations agencies. This was a significant 22 percent decrease on 2015 levels (USD 1.9 billion) with most of this due to legislative limitations on Global Fund contributions – although much of this missing funding was later disbursed in 2017. Seven donors provided the majority of their HIV funding through multilateral channels (Australia, Norway, France, Germany, Italy, Japan and Canada).

The Global Fund to Fight AIDS, Tuberculosis and Malaria (The Global Fund): Founded in 2002, the Global Fund is an international financing organization that aims to 'attract and disburse additional resources to prevent and treat HIV and AIDS, tuberculosis and malaria. In September 2016, the Fifth Replenishment of the Global Fund saw governments and private sector donors committed USD 12.9 billion to fight HIV and AIDS, tuberculosis and malaria between 2017 and 2019. This was almost exactly the USD 13 billion target, and represented a nearly USD 1 billion increase on funds raised at the previous pledging conference in 2013. The Global Fund is the world's largest financier of HIV and AIDS, TB and malaria programs. In 2015, 55 percent of its total disbursements

went towards HIV and AIDS programs. The USA was the largest donor to the Global Fund followed by the UK, France, Germany and Japan (ibid.).

Private philanthropic organizations provided USD 618 million for global HIV and AIDS programs in 2014 – an eight percent increase on 2013 levels. However, this is still down eight percent on the high mark in 2008 (USD 674 million).

Private philanthropic organizations provided USD 618 million for global HIV and AIDS programs in 2014 – an eight percent increase on 2013. Private philanthropies include foundations, corporations, faith-based organizations, non-government organizations and individuals. As well as providing funding for the global HIV response, many of these organizations provide other non-financial support such as price reductions for HIV treatment.

The Bill & Melinda Gates Foundation is the leading philanthropic funder of international HIV efforts. In fact, it is one of the largest private foundations in the world and aims primarily to enhance healthcare and reduce extreme poverty. In 2014, the foundation provided 34 percent of all HIV-related philanthropic giving. The foundation had committed more than USD 3 billion in HIV grants to organizations around the world and had given an additional USD 1.6 billion to the Global Fund. The foundation concentrates its spending in places where existing funds are scarce and will therefore have the greatest impact (ibid.).

In 2015, domestic resources exceeded funds provided by donors and accounted for the majority of global HIV funding (57 percent), totaling USD 10.9 billion. Although challenging for low- and middle-income countries, shifting the

funding paradigm towards domestic funding has advantages. These include fostering ownership and accountability in the implementation of the national HIV response and increasing its sustainability. In sub-Saharan Africa, countries such as Kenya, South Africa, Togo and Zambia have dramatically increased their domestic HIV spending in recent years. South Africa mostly funds its own response and spent over USD 1.5 billion on its HIV and AIDS programs in 2014. However, this is likely to become a challenge over the coming years following the government's recent commitment to funding lifelong treatment. Despite this progress, many low- and middle- income countries remain heavily dependent upon international donors to finance their HIV response (*Izazola*, 22.8.2017).

In Zambia, between 2016 and 2020, resources required are around USD3 billion in order to achieve the 90-90-90 targets (90 percent of people living with HIV diagnosed, 90 percent of diagnosed people on antiretroviral treatment, and 90 percent of people in treatment with fully suppressed viral load) within the current National AIDS Strategic Framework. The annual resource requirement grows from USD 540 million in 2016 to USD 677 million in 2020. Antiretroviral therapy (ART) is the primary cost driver, increasing from USD 337 million to USD 413 million, corresponding to a 23 percent increase in patient numbers over that period. HIV testing and counselling (HTC) costs will also increase—from US\$61 million to USD 118 million—as testing is scaled up to identify remaining people living with HIV (PLHIV). Identifying 90 percent of PLHIV (excluding pregnant women) will necessitate an estimated 4.2 million tests annually (3.2 adult, one million pediatric), by 2020, with a cumulative total of

14.2 million tests over five years. In comparison, the resource requirement for the 2014 standard treatment guideline (STGs) is nearly one third higher, at approximately USD 3.95 billion over 5 years, with an annual cost of USD 1.07 billion in 2020. With 20 percent more patients on ART than under the 90-90-90 scenario, the cost of Antiretroviral therapy (ART) will grow to USD 501 million by 2020. However, HTC costs balloon to \$422 million by 2020 to expand ART to 96 percent of PLHIV, as testing yield falls. Under both scenarios, costs for all other interventions are assessed based on targets from the National AIDS Strategic Framework 2014-2016. For 2017-2020, all targets for prevention of mother-to-child transmission (PMTCT) coverage, new male circumcision procedures, condom distribution, and behavior change communication (BCC) are held constant. Annual program costs are USD 48 million for PMTCT, USD 29 million for male circumcision, USD 66 million for condoms and USD 2 million for BCC. All programs include a presumed overhead (program coordination, monitoring and evaluation, community systems strengthening, etc.) cost of 29.5 percent (Thomas & Wu, 2015).

In 2017, USD 37.4 billion of development assistance was provided to low- and middle-income countries to maintain or improve health. This amount is down slightly compared to 2016, and since 2010, development assistance for health (DAH) has grown at an annualized rate of one percent. While global development assistance for health has seemingly leveled off, global health spending continues to climb, outpacing economic growth in many countries. Total health spending for 2015, the most recent year for which data are available, was estimated to be USD 9.7 trillion up 4.7 percent from the prior

year, and accounted for 10 percent of the world's total economy. With some sources of health spending growing and other types remaining steady, and with major variations in spending from country to country, it is more important than ever to understand where resources for health come from, where they go, and how they align with health needs. This information is critical for planning and is a necessary catalyst for change as we aim to close the gap on the unfinished agenda of the Millennium Development Goals (MDGs) and move forward toward universal health coverage (UHC) in the Sustainable Development Goals (SDGs) era. Our updated analysis of the resources available for health includes tracking spending in 188 countries, alongside groundbreaking, disease-specific spending estimates to illuminate the resources available for prevention, treatment, and equitable health coverage around the world. We begin our disease-specific resource tracking by assessing HIV/AIDS, the health issue that has received the largest share (26.8 percent) of development assistance for health since 2000. The dramatic annualized 11.9% increases in total spending on HIV/AIDS since 2000 have mitigated a major global health crisis. However, the vulnerability of low-income and high-burden countries to reductions in DAH is a critical issue. Tracking resources for HIV/AIDS and other specific diseases can illuminate the countries that are most vulnerable to future reductions in DAH, and be used to gauge progress toward goals such as the SDGs (IHME, 2017).

Countries are facing global and domestic pressure to scale up their HIV responses, with most using the 90-90-90 targets in the UNAIDS Fast-Track agenda as preliminary goalposts. Progress has been steady and remarkable in

many places, as millions more are initiated on antiretroviral treatment (ART) every year. ³ But such successes mask deep-seated concerns about the quality and sustainability of most countries' HIV responses. One concern is that the targets are highly treatment-focused, with less attention and resources allocated to primary prevention. The impact of treatment on prevention is profound, but, in most places, inadequate on its own to control the epidemic. Epidemic control, however it is defined, cannot be achieved with insufficient primary prevention efforts to halt new infections. In every country, regardless of overall HIV burden, key and vulnerable populations are disproportionately at risk yet are the most difficult to reach and support with effective prevention services. A burgeoning new generation of adolescents in many high-burden countries also poses a threat to successful HIV goals, a threat that can only be addressed through increased commitments to primary prevention. The other main concern is financial. As scale-up continues, countries are still needing to spend more every year on prevention, case identification, linkage to care and providing ever larger numbers of people with quality ART that must be taken for the rest of their lives. Yet already countries are facing significant financial constraints. Even though HIV often receives large shares of overall budgets for health, without additional funding, coupled with more effective use of that funding, it will be increasingly challenging for the global HIV response to be optimally successful or sustained (www.joeplangeinstitute.org, 14.01.2019).

External funding (e.g., from donors) for HIV has been mostly flat after steadily rising for more than a decade through 2008. The advent of the Sustainable Development Goals (SDGs), with their emphasis on a wider range of

development financing, along with increased advocacy and attention to other development priorities such as climate change and migration, have further narrowed the space for substantial external HIV-specific funding in most countries even as they are seeking to scale up their HIV responses. Even though some USD 22 billion is spent annually on HIV responses, that figure falls substantially short of the \$26 billion estimated by UNAIDS to be the global price tag per year for the achievement of the 2020 Fast-Track targets. Some of the HIV financing gap from donors' retrenchment and refocusing is being filled by domestic sources (e.g., from government budgets), which currently account for more than 50 percent of HIV programming costs across low- and middle-income countries. Expanded domestic responsibility is supported by most advocates and technical partners in the belief that such funding is the most sustainable longer-term source. However, although some countries have made significant progress toward domestically financing much of their HIV responses (e.g., South Africa), many others continue to rely heavily on external funding from sources such as the US President's Emergency Plan for AIDS Relief (PEPFAR) and the Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund). Some are currently unable or unwilling to allocate more substantial domestic resources or to identify other sources to cover reductions in donor support. And, in far too many places, domestic funding—no matter how substantial—fails to support services for key populations. The global commitment to reach universal health coverage (UHC) goals provides both opportunities and challenges for the global HIV response. Integrating HIV services within comprehensive approaches to health services can make for

better and more efficient HIV health outcomes. And many of the lessons learned through development and scale up of HIV prevention, treatment and care service could serve to improve other areas of health care and social service provision. However, as UHC policies are implemented, it will be important to ensure that the uniqueness of the HIV response is not lost and that resources to sustain that response remain available (ibid.).

2. 6. 2. Impact of Financing of HIV/AIDS

Ghana (2013) showed that HIV and AIDS in Ghana remains a disease of high priority. Incentives paid to health staff by some organizations, however, have led to higher-pay expectations and unwillingness to perform certain duties without additional payment. The Government has an explicit responsibility to reduce out-of-pocket expenditures over time, especially for PLHIV and key populations. The Government should develop sustainability plans as to how existing programs and plans can be implemented without development partner support. New and existing projects or programs that rely on development partner funds should develop financial sustainability plans and implement them. Advocacy should also be heightened to include ARVs and family planning services and commodities in the National Health Insurance Scheme (NHIS) Package. Efforts should be made to ensure that measures are put in place to facilitate local production of ARVs through partnerships between the public and private sector. Advocacy should be heightened for the establishment of the HIV and AIDS Fund, which when established and in operation, will provide long-term sustainable funding for the national response. In line with the

Government's policy on decentralization, the Ghana AIDS Commission (GAC) Secretariat should collaborate with the political and administrative units of the country, especially the Regional Co-ordinating Councils and District Assemblies, to implement HIV and AIDS, STI programs. Additionally, District Assemblies will be charged with the responsibility to lead community mobilization against HIV and AIDS, STIs to expand the national response.

The National Agency for the Control of AIDS of Nigeria (2013) stated that the last five years had seen significant progress in the national response to HIV. The National prevalence has levelled out and started a decline and Nigeria was currently classified as having a stable change in the incidence rate of HIV infection among adults. Many more people are having access to antiretroviral drugs when compared to five years ago and impact of behavioral interventions are beginning to become manifest. In spite of the progress made, Nigeria remained one of the most burdened countries globally with over three million people living with HIV, significant gaps in treatment and limited domestic financing of the HIV response. The first bold step had been taken in identifying the challenges and the support of the president had injected the necessary momentum towards addressing them. The President's Comprehensive Response Plan for HIV/AIDS in Nigeria (PCRP) could not have come at a better time.

The HIV/AIDS response is at a crossroads in Viet Nam. Significant progress has been made in the past 25 years in preventing new infections, reducing AIDS-related deaths, and gradually scaling up harm-reduction interventions and HIV

services in high-burden provinces. These achievements have been made from a combination of strong political leadership across sectors, the participation of affected communities and civil society, and effective collaboration between the government and international development partners. However, like many countries, Viet Nam faces formidable challenges in sustaining the national response to HIV/AIDS. International donor contributions are shrinking, while domestic resources remain limited. The cumulative number of HIV infections and AIDS-related deaths continues to rise. HIV transmission has taken on a new and complex dynamic that makes it more difficult to act. HIV-related stigma and discrimination remain significant barriers to service uptake, and programme coverage is limited. Despite these challenges, Viet Nam's National Strategy on HIV/AIDS Prevention and Control 2011-2020 and the Vision to 2030 supports the ambitious global targets of the 2011 United Nations Political Declaration on HIV/AIDS. Moreover, the Government of Viet Nam recently announced its commitment to new targets intended to rapidly expand HIV treatment by 2020, becoming the first country in Asia to adopt the 90–90–90 goals² and thus committing to the vision of ending the AIDS epidemic by 2030. Newborn and Child Health aimed to document good practices to share with the global parliamentary community. It also made recommendations to the National Assembly of Viet Nam on how to further strengthen its contribution to the national AIDS response. The lessons learned in Viet Nam are a source of important information for all countries as the global AIDS response enters a critical phase between complacency and the opportunity to end the epidemic. Two ninety per cent of people living with HIV will know their HIV status, 90 per

cent of people who know their status will be on HIV treatment, and 90 per cent of all people on treatment will have undetectable levels of HIV in their body (known as viral suppression). The progress in Viet Nam's AIDS response and emphasized efficient approaches regarding access to HIV treatment (Inter-Parliamentary Union, 2014).

Of Thailand's population of more than of nearly 70 million, it was estimated that 450,000 people were living with HIV in 2016 and that 16,000 people died of AIDS-related illnesses. After sub-Saharan Africa, Asia and the Pacific is the region with the largest number of people living with HIV, with Thailand home to approximately 9 percent of the region's HIV positive people. Thailand has reached the first 90 of UNAIDS' 90-90-90 targets as 91 percent of people living with HIV in 2016 were aware of their status. Of those people who know they are HIV positive, 75 percent were on treatment, 79 percent of whom were virally suppressed. Overall, this equates to 69 percent of all people living with HIV being on treatment and 54 percent being virally suppressed. Thailand's HIV epidemic is concentrated among certain key populations. Those most affected are men who have sex with men, sex workers, transgender people and people who inject drugs. Spouses of these populations, migrants and prisoners are also more vulnerable to HIV than others. HIV prevalence is declining in Thailand due to successful HIV prevention programmes. A study has shown that nearly 10 million people avoided HIV transmission because of early intervention programmes with key affected populations between 1990 and 2010. Between 2005 and 2016, AIDS-related deaths declined by almost two thirds (www.avert.org, 08.01.2019).

Although an upper-middle income country, Thailand's economic growth has slowed in recent years compared to other developing South-East Asian countries. Poverty continues to be a huge challenge, particularly among the half of the population (of a total of 68.9 million in 2016) that live in rural areas, as it can increase vulnerability to HIV. However, Thailand's basic health system infrastructure is good and universal health coverage means most people are within reach of health services. In 2014, 92 percent of Thailand's HIV response was funded domestically. Funding from international donors continues to fall. Particularly important in this regard is funding from the Global Fund to Fight AIDS, Malaria and Tuberculosis, which dropped from USD 39 million in 2014 to about USD 14 million in 2015-2016, and was entirely phased out in 2017. According to Thailand's 2013 National AIDS Spending Assessment, 89 percent of all funding for HIV that year went to treatment, support and clinical care. In contrast, only 3.6 percent of all expenditures were devoted to key population prevention and to HIV testing and counselling, combined. While funding for HIV care and treatment were supported almost entirely with domestic public resources, expenditures on key population prevention were dependent predominantly on external resources, with domestic public resources comprising only 14 percent of total spending in this area.

Analysis suggests the Thai government could broker the funding gap left by the Global Fund's withdrawal by calling on national pooled financing mechanisms from various sources. Although the general political consensus appears to be that the Thai government will honor its responsibility to fully support key populations, debates within government ministries are occurring as to whether

or not the domestic budget should be used to support key populations from migrant communities. Although Thailand made enormous progress with HIV prevention in the 1990s, the rate of decline in HIV prevalence has slowed down in recent years. Access to prevention services and behavior change communication has not been enough to significantly reduce the rate of new infections, particularly among men who have sex with men. Thailand's 2017–2030 National AIDS Strategy provides a roadmap for ending the AIDS epidemic as a public health threat by 2030. Indeed, from 2015 the Ministry of Public Health increased its budget to prepare for implementing its strategy to end AIDS. Its spending commitments must remain if real progress is to be made. But to be in with a real chance of ending AIDS by 2030, Thailand will also need to give significant focus to new and innovative intersectional strategies to reach both young people and key affected populations, particularly men who have sex with men and those from migrant communities (ibid.).

Zambia is one of the countries hardest hit by the HIV epidemic. Adult (ages 15–49) HIV prevalence peaked at nearly 16 percent in the late 1990s and, despite high levels of donor funding, remains among the highest in sub-Saharan Africa at 12.5 percent. There are an estimated 1.2 million Zambians living with HIV, of whom more than 100,000 are children ages 0–14. Although Zambia will experience approximately 55,000 new HIV infections in 2015, incidence has dropped sharply from 9.4 new infections per 1,000 in 2000 to 3.7 in 2015. Over the same period, HIV-related deaths have declined by approximately two-thirds due to rapid scale-up of treatment. However, despite these achievements, HIV and AIDS remains the primary cause of both mortality and disability-adjusted

life years in Zambia. Zambia's HIV epidemic is characterized by several key disparities in gender, location, and socio-economic status. Historically, the HIV prevalence among women has been, approximately, a third higher than among men. At 18 percent, the urban prevalence rate is twice that of rural areas (Thomas & Wu, 2015).

Donor funding commitments for HIV have on the whole plateaued between 2012 and 2015, despite significant annual variations in funding levels. Current donor funding makes up 75 percent of the total resource envelope for HIV of USD 533 million, with PEPFAR (USD 260 million) and the Global Fund (USD 118 million) accounting for a combined 95 percent of donor funding and 71 percent of the total. Domestic funding sources account for the majority of remaining funding, or an estimated USD 134 million (25 percent), with the Government of Zambia (GRZ) contributing 96 percent (USD 129 million) of total domestic resources through the general budget. Taken together, President's Emergency Plan for AIDS Relief (PEPFAR), the Global Fund, and the GRZ account for 95 percent of resources mobilized for HIV in Zambia in 2015. Between 2016 and 2020, resources required are around USD 3 billion in order to achieve the 90-90-90 targets within the current National AIDS Strategic Framework. The annual resource requirement grows from USD 540 million in 2016 to USD 677 million in 2020. ART is the primary cost driver, increasing from USD 337 million to USD 413 million, corresponding to a 23 percent increase in patient numbers over that period. HIV testing and counselling (HTC) costs will also increase from USD 61 million to USD 118 million as testing is scaled up to identify remaining people living with HIV. Identifying 90 percent of people living with HIV

(excluding pregnant women) will necessitate an estimated 4.2 million tests annually (3.2 adult, one million pediatric), by 2020, with a cumulative total of 14.2 million tests over five years. In comparison, the resource requirement for the 2014 standard treatment guidelines is nearly one third higher, at approximately USD 3.95 billion over 5 years, with an annual cost of USD 1.07 billion in 2020. With 20 percent more patients on antiretroviral therapy (ART) than under the 90-90-90 scenario, the cost of ART will grow to \$501 million by 2020. However, HTC costs balloon to USD 422 million by 2020 to expand ART to 96 percent of PLHIV, as testing yield falls.⁶ Under both scenarios, costs for all other interventions are assessed based on targets from the National AIDS Strategic Framework 2014-2016. For 2017-2020, all targets for prevention of mother-to-child transmission (PMTCT) coverage, new male circumcision procedures, condom distribution and behavior change communication (BCC) are held constant. Annual program costs are USD 48 million for PMTCT, US\$29 million for male circumcision, USD 66 million for condoms and USD million for BCC. All programs include a presumed overhead (program coordination, monitoring and evaluation, community systems strengthening, etc.) cost of 29.5 percent. Although available resources have roughly met the estimated resource requirement for the period 2014-2016, predictability and long-term availability of funding remain areas of concern for Zambia's national HIV response, particularly in the face of increasingly ambitious scale-up targets. Funding commitments exceeded the estimated resource requirement by 33 percent in 2014, but fell by 12 percent in 2015, despite an increase of more than one-third in resource need. Current commitments continue to decline over

the next two years, due both to a drop off in current Global Fund obligations and the absence of GRZ budget projections. The overall resource requirement falls in 2016—largely due to a decrease of two-thirds in VMMC programming—but then grows steadily through 2020 with the increased burden of additional patients on ART and expansion of HTC. HPP estimates that under the 90-90-90 targets, the resource requirement for 2016 is roughly in line with the value total committed resources for 2015, however a significant gap persists between projected expenditure and resources need. If expenditure remains flat, the annual gap between expenditure and need will grow from USD 132 million in 2016 to USD 268 million in 2020 (ibid.).

Uganda's HIV epidemic remains among the largest in sub-Saharan Africa; there are more than 1.7 million PLHIV living in Uganda, the fourth largest PLHIV population in sub-Saharan Africa in 2013. Adult HIV prevalence, which declined steeply between 1990 and 2005 from 13 percent to less than 6 percent, has risen steadily over the past decade and was estimated to reach 7.9 percent in 2015—a 17-year high. Among adults, HIV incidence peaked at nearly nine new infections per 1,000 people between 2010 and 2012, and has since declined to an estimated six new infections per 1,000 people in 2015. In 2015, there were an estimated 106,117 new adult infections and 15,267 new pediatric infections. The number of HIV-related deaths declined from more than 100,000 in 2000 to an estimated 40,903 in 2015, in large part due to the scale-up of ART. With lower mortality rates, the number of PLHIV is expected to continue to grow, surpassing two million by 2030. The HIV epidemic in Uganda disproportionately

affects a number of high-risk groups. Estimated HIV prevalence among sex workers and men who have sex with men-historically two of the highest risk groups-is 33 to 35 percent and 14 percent, respectively. Young women in Uganda are also particularly at risk of HIV infection, with more new infections among young women than in any sub-Saharan country except South Africa. Women in general are more likely to be infected with HIV than men, at 8.3 percent prevalence compared to 6.1 percent. Furthermore, those who experience intimate partner violence are 50 percent more likely to acquire HIV. HIV prevalence is also higher in rural areas, particularly among fishing communities, who experience an estimated prevalence rate roughly three times higher than that of the general population. The Uganda AIDS Commission has also identified long-distance truck drivers and uniformed service members (i.e., military) as at-risk groups (Sayaka et al., 2016).

Uganda's ambitious scale-up targets will require the mobilization of significant resources from both external and domestic sources. As with other countries with high HIV burden, Uganda's health sector relies heavily on donor funding. According to the most recent NHA, in fiscal year 2011/12, donor resources accounted for 46 percent (USD 860 million) of total health expenditure (THE). In comparison, government funding accounted for only 15 percent (USD 283 million) of THE. Private sources played a significant role in the financing of health services, making up the remaining 38 percent of funding (USD 713 million), with households contributing 97 percent of that figure (USD 694 million) in the form of out-of-pocket (OOP) expenditures. Although OOP expenditure for HIV is relatively low, high OOP expenditure on health in general

suggests that, as donor support for HIV services flattens and perhaps declines, much of the financial burden of HIV may shift to households. This highlights the need for Uganda to identify new sources of financing for HIV programming in order to promote long-term equity in access to and utilization of services.

Resource Commitments Significant scale up of HIV services in Uganda over the past decade has been primarily supported by high levels of donor funding. PEPFAR funding increased rapidly between 2005 and 2009, from USD 96 million to USD 284 million. Since then, the total value of PEPFAR resources in Uganda has remained relatively steady, peaking at USD 323 million in 2014, before declining slightly to USD 317 million in 2015. As a share of total resources for HIV, excluding households, PEPFAR funding has declined slightly over that period from 61 percent in fiscal year 2011/12 to 55 percent fiscal year 2014/15. Contributions from the Global Fund have fluctuated significantly in past years. In six out of nine years, between 2004 and 2012, the value of budgeted funds changed by more than 75 percent from the previous year. In four of those years, funding levels fell from the previous year. However, the Global Fund commitments have risen steeply over the past five years, from USD 49 million (10 percent) in 2012 to USD 110 million (19 percent) in 2015.⁵ Funds from other external sources, including bilateral and multilateral donors, international foundations, and corporations, declined slightly as a share of funding, from 16 to 13 percent. In absolute terms, funds from other external sources declined from USD 78 million to USD 74 million, from fiscal year 2011/12 to fiscal year 2014/15. Of this USD 74 million in FY 2014/15, USD 15.3 million come from United Nations agencies, USD 7.1 million from the Danish International

Development Agency, USD 9.2 million from Irish AID, USD 5.4 million from United Kingdom's Department for International Development, USD 2.9 million from UNITAID/Clinton Health Access Initiative, USD 0.5 million from the European Union, and USD 0.1 million from Global Alliance for Vaccines and Immunizations. An additional USD 33 million was contributed by non-disaggregated donors. Domestic sources of funding for HIV, excluding households, accounted for 14 percent or less of total HIV financing in the years assessed. Public (i.e., government) sources accounted for the vast majority of these funds (95 percent in 2015). Under Uganda's NSP targets, the resource requirement from fiscal years 2015/16 to 2019/20 is USD 3.83 billion. The annual resource need increases from USD 628 million to USD 920 million. ART remains relatively constant as a percentage of the total requirement, between 57 and 58 percent, but increases in absolute terms from USD 362 million to USD 530 million. At the same time HTC costs more than double from USD 49 million to USD 93 million over five years. Other programs including PMTCT, voluntary medical male circumcision (VMMC), condoms, behavior change communication (BCC), support for orphans and vulnerable children (OVC), collectively decline from 20 percent to 18 percent of the total resource need over the same period. Resources for program support, which are assumed to be equal to 18 percent of direct program costs, and therefore make up 15 percent of the total resource requirement, increase from USD 91 million to USD 135 million. Under the 90-90-90 scenario the total, five-year (fiscal years 2015/16-2019/20) resource need is approximately USD 3.96 billion. Annually, the resource need grows from US\$626 million in fiscal year 2015/16 to USD

983 million in fiscal year 2019/20. As in the national strategy scenario, ART is the primary cost driver. However, the resource requirement is slightly higher under 90-90-90, increasing from USD 367 million to USD 576, but remains constant as a share of the total resource requirement (between 59 and 60 percent). HIV testing and counselling (HTC) costs aimed at identifying remaining PLHIV also doubles under the 90-90-90 scenario, from USD 44 million to USD 102 million. HTC costs increase exponentially, growing from 7 to 10 percent of the total resource requirement, due to a decline in testing yield. In other words, as more people are identified and put on treatment, the number of PLHIV who do not know their status declines. Despite this decline, the target for the number of new HIV-positive individuals to be identified remains constant. For this reason, a larger number of people will need to be tested, identified, and put on treatment to meet rising treatment coverage targets. Other program costs were also similar to the National HIV and AIDS Strategic Plan 2015/2016—2019/2020 (NSP) scenario, declining from 20 percent of the total resource requirement to 16 percent by fiscal year 2019/20. All additional interventions, including PMTCT, VMMC, condoms, BCC and OVC support were unchanged from the NSP due to a lack of additional data. Program support costs were also kept constant at 18 percent of program costs and 15 percent of the total (ibid.).

Thus, the huge mobilization of resources for the global HIV and AIDS response over the course of the epidemic has been unprecedented in the history of public health. The challenge of funding HIV treatment, prevention and care in middle- and low-income countries has been characterized by vocal advocacy, unique

and innovative funding mechanisms, previously unseen levels of bilateral aid, and philanthropic donations whose scale have rivalled those of donor governments and multilateral institutions. However, recent years have seen a regression. Donor funding for the HIV response in low- and middle-income countries declined. National governments in some low- and middle-income countries are now stepping up to fund their own responses, slowly filling some funding gaps and working towards a more sustainable response to HIV. These new instruments channel substantial amounts of international funding to affected countries.

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CHAPTER III

RESEARCH METHODOLOGY

In order to meet the objectives and hypothesis of the study, the following methodology has been used.

3. 1. Type of Analysis

In order to response to the study objectives, both qualitative and quantitative methods will be used, and in-depth interview and cross-sectional data will be designed to carry out in the proposed research. In order to review the relevant literatures, descriptive analysis will be made.

3. 2. Source and Type of Data

The study will be based on both primary and secondary data. Primary data will be collected from the direct beneficiaries of HIV/AIDS financing, i.e., HIV/AIDS affected people receiving benefits in the HIV/AIDS burden areas in such as: Phnom Penh, Siem Reap, Battambang, and Banteay Meanchey in Cambodia to assess the impact of HIV/AIDS financing on the beneficiary areas. Further, views of the officials (key informants) associated with HIV/AIDS financing in the institutions namely, National AIDS Authority (NAA), Provincial AIDS Secretariat (PAS), National Centre for HIV/AIDS, Dermatology and STD (NCHADS), Khmer HIV/AIDS NGO Alliance (KHANA), AIDS Healthcare Foundation (AHF), Family Health International 360 (FHI360), HIV/AIDS Coordinating Committee (HACC), Cambodian People Living with HIV Network (CPN+), Joint United Nations Programme on HIV/AIDS (UNAIDS), President

Emergency Plan for AIDS Relief (PEPFAR) will be taken account to know the details of issues, challenges, and utilization HIV/AIDS financing.

The secondary data will include the existing documents relating to HIV/AIDS financing in Cambodia available in the agencies such as National AIDS Authority, National Centre for HIV/AIDS, Dermatology and STD (NCHADS), Khmer HIV/AIDS NGO Alliance (KHANA), AIDS Healthcare Foundation (AHF), Family Health International 360 (FHI 360), HIV/AIDS Coordinating Committee (HACC), Cambodian People Living with HIV Network (CPN+), Joint United Nations Programme on HIV/AIDS (UNAIDS), President Emergency Plan for AIDS Relief (PEPFAR).

3. 3. Sample Size

In order to know the number of HIV/AIDS affected beneficiaries to be surveyed in the four selected provinces/cities above on the total number of HIV/AIDS affected beneficiaries are collected, and Yamane (1967) formula is used to decide the total number of sample HIV/AIDS affected beneficiaries.

The formula of Yamane is given below:

$$n = \frac{N}{1 + Ne^2}$$

Where,

n = Sample size

N = Population size

e = Margin of error, which is assumed as 0.05 (5 percent)

The sample size of each selected provinces/city has been calculated on the basis of percentage of HIV/AIDS beneficiaries in the selected provinces/city to total number of HIV/AIDS beneficiaries in all selected provinces/cities. The details of the total and sample

Table 3.1: Total and Sample Number of HIV/AIDS Affected People in the Study Area

SI. No.	Study Area	No. of HIV/AIDS Affected People	
		Total	Sample
1	Phnom Penh	14,629	182
2	Siem Reap	6,277	78
3	Battambang	6,241	78
4	Banteay Meanchey	4,603	57
	Total	31,750	395

Source: NCHADS/MOH and Own Estimation.

The number of beneficiaries in the selected provinces/cities are shown below:

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4	Banteay Meanchey	4,603	57
	Total	31,750	395

Moreover, 30 key informants or officials, three each from the institutions such as National AIDS Authority (NAA), Provincial AIDS Secretariat (PAS), National Centre for HIV/AIDS, Dermatology and STD (NCHADS), Khmer HIV/AIDS NGO Alliance (KHANA), AIDS Healthcare Foundation (AHF), (FHI360), HIV/AIDS Coordinating Committee (HACC), Cambodian People Living with HIV Network (CPN+), Joint United Nations Programme on HIV/AIDS (UNAIDS), President Emergency Plan for AIDS Relief (PEPFAR), will be interviewed for the study purpose.

3. 4. Sampling

To collect primary data, at first, out of the 25 provinces/cities in the country, four provinces/cities such as: Phnom Penh, Siem Reap, Battambang, and Banteay Meanchey will be selected purposely as in these provinces/cities, concentration of the number of HIV/AIDS affected people or direct beneficiaries of HIV/AIDS financing in Cambodia is very high. Proportional stratified random sampling will be used to select the 395 HIV/AIDS affected people from these four provinces/cities. Further, 30 key informants or officials working in the organizations such as such as National AIDS Authority (NAA), Provincial AIDS Secretariat (PAS), National Centre for HIV/AIDS, Dermatology and STD (NCHADS), Khmer HIV/AIDS NGO Alliance (KHANA), AIDS Healthcare Foundation (AHF), (FHI360), HIV/AIDS Coordinating Committee (HACC), Cambodian People Living with HIV Network (CPN+), Joint United Nations

Programme on HIV/AIDS (UNAIDS), President Emergency Plan for AIDS Relief (PEPFAR), will be selected purposively.

3. 5. Statistical Tools

The study has used simple statistical tools like average, percentage and graphs to analyze the data.

For the testing of the null hypotheses Ho1, simple percentage analysis has been used. In order to test null hypotheses Ho2 and Ho3, χ^2 (chi-square) test will be used. The formula is given below:

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where,

i = Number of classes

O_i = Observed frequency in class i

E_i = Expected frequency in class i

c = Number of categories

d.f. = $c - 1$

For the testing of null hypotheses Ho4 to Ho7, (t) test has been used, and the formula for the calculation of (t) value is as below:

$$t = \frac{\bar{d} \sqrt{n}}{s}$$

Where,

$\bar{d}$ = Mean of the differences

s = Standard deviation of the differences = $\sqrt{\frac{\sum(d - \bar{d})^2}{(n-1)}}$, and

n = Number of respondents

3. 6. Data Gathering Procedure

For the collection of secondary data, a detail list will be prepared, and relevant information as per the list will be collected from the institutions such as National AIDS Authority (NAA), Provincial AIDS Secretariat (PAS), National Centre for HIV/AIDS, Dermatology and STD (NCHADS), Khmer HIV/AIDS NGO Alliance (KHANA), AIDS Healthcare Foundation (AHF), (FHI360), HIV/AIDS Coordinating Committee (HACC), Cambodian People Living with HIV Network (CPN+), Joint United Nations Programme on HIV/AIDS (UNAIDS), President Emergency Plan for AIDS Relief (PEPFAR), and beneficiaries.

The primary data will be collected by using questionnaires through direct personal interview with the direct beneficiaries, i.e., HIV/AIDS affected people and the key informants working on HIV/AIDS financing from institutions such as National AIDS Authority (NAA), Provincial AIDS Secretariat (PAS), National Centre for HIV/AIDS, Dermatology and STD (NCHADS), Khmer HIV/AIDS NGO Alliance (KHANA), AIDS Healthcare Foundation (AHF), (FHI360), HIV/AIDS Coordinating Committee (HACC), Cambodian People Living with HIV Network (CPN+), Joint United Nations Programme on HIV/AIDS (UNAIDS), President Emergency Plan for AIDS Relief (PEPFAR) financing.

3. 7. Procedure of Analyzing Data

All collected data will be first cleaned and edited, then data will be entered into Excel program software. Double check procedure is performed to ensure reliability and accuracy of the data set. Then, the data processing will be conducted to generate necessary tables and graphs, and do the needful statistical calculations to meet the objectives of the study and test the hypotheses. On the basis of tables, graphs and statistical results, data analysis will be carried out of the study.

3. 8. Coverage of the Study

The study will cover all HIV and AIDS financing data over the period of the last ten years (2010-2019) from all agencies which have provided and received HIV and AIDS funds in Cambodia including both national and external funding.

The survey will be conducted in the HIV/AIDS prone areas such as Phnom Penh, Siem Reap, Battambang and Banteay Meanchey to collect the primary data from the selected direct beneficiaries, i.e., HIV/AIDS affected people. The study will also include the key informants working HIV/AIDS financing in the institutions such as National AIDS Authority (NAA), Provincial AIDS Secretariat (PAS), National Centre for HIV/AIDS, Dermatology and STD (NCHADS), Khmer HIV/AIDS NGO Alliance (KHANA), AIDS Healthcare Foundation (AHF), (FHI360), HIV/AIDS Coordinating Committee (HACC), Cambodian People Living with HIV Network (CPN+), Joint United Nations Programme on HIV/AIDS (UNAIDS), President Emergency Plan for AIDS Relief (PEPFAR). Though the study intends to take all concerned agencies in Cambodia but practically,

agencies like some local non-governmental organizations and civil society organizations that are small or not registered may be missed.

3. 9. Scope and Limitations of the Study

The study will be confined to financing of HIV/AIDS over the period of ten fiscal years and its impact on the beneficiaries in Cambodia. Further, the study will take the views of 30 key informants and only 395 beneficiaries living in the hot spot provinces/cities, Phnom Penh, Siem Reap, Battambang and Banteay Meanchey. The study would have been better if the opinions could have been taken from all kinds of the beneficiaries in 25 provinces/cities of HIV/AIDS financing and all the development partners, civil societies, and government institutions working on HIV/AIDS in Cambodia.

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CHAPTER IV

SOCIO-ECONOMIC PROFILE OF THE STUDY AREA

This chapter discusses the socio-economic profile of the Cambodia. The topics included for discussion in the chapter are location and climate, demographic factors, education, health service, labor force, tourism, economic growth, and HIV/AIDS status in the country.

4. 1. Location and Climate

Cambodia is an agricultural country located in Southeast Asia. It borders with Thailand to the west, Laos and Thailand to the north, the Gulf of Thailand to the southwest, and Vietnam to the east and the south. It has a total land area of 181,035 square kilometers.

Cambodia has a tropical climate with two distinct seasons that set the rhythm of rural life. From November to February, the cool, dry northeastern monsoon brings little rain, whereas from May to October the southwestern monsoon carries strong winds, high humidity, and heavy rains. The mean annual temperature for Phnom Penh, the capital city, is 27°C.

4. 2. Demographic Factors

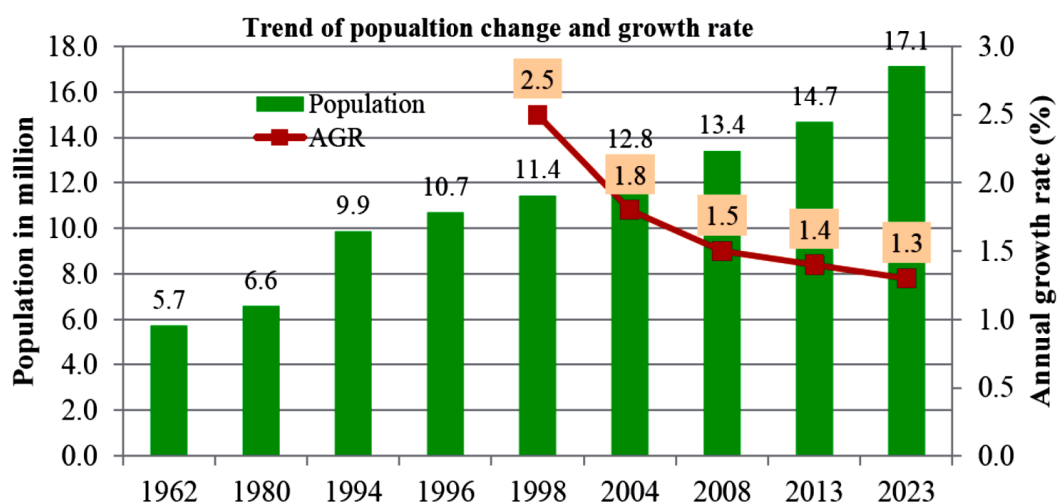
In the Cambodia, the 1962 population census was the first official census to be conducted prior to 1998; it revealed a population of 5.7 million. The population census in 1998 recorded a population of 11.4 million with an annual growth rate of 2.5 percent. The 2004 Inter-Censal Population Survey showed that the annual growth rate had declined to 1.8 percent, with a total population of 13.1

million. The 2008 General Population Census (GPC) showed a further decrease in the annual growth rate to 1.54, with a total population of 13.4 million. The proportion of the population living in rural areas is 80.5 percent; only 19.5 percent of the country's residents live in urban areas. The population density in the country as a whole is 75 per square kilometer, with approximately 1.3 million inhabitants living in Phnom Penh. The average size of the Cambodian household is 4.7. The total male to female sex ratio is 94.7. The literacy rate among adult males is 84 percent, considerably higher than the rate among females (76 percent). Currently, it is estimated that the percentage of the total population living below the poverty line fell to 21.1 percent in 2010 and decreased further to 19.8 percent in 2011 (Ministry of Planning & Ministry of Health, 2015).

According to the population projection, Cambodian population will be around 17.1 million in 2023. Total fertility rate (TFR) decreased from 4.0 in 2000 to 2.7 in 2014. Usually, the fertility rate in urban areas is lower than that in rural areas; specifically, TFR in 2014 was 2.1 in urban areas and 2.9 in rural areas. Maternal mortality ratio, which was 461 deaths per 100,000 live births in 2008, was declined to 206 deaths in 2010 and continued to decline to 170 deaths in 2014. Infant mortality rate has dramatically declined from 95 deaths per 1,000 live births in 2000 to 28 deaths per 1,000 live births in 2014. Child mortality rate has also declined from 124 deaths per 1,000 live births in 2000 to 35 deaths per 1,000 live births in 2014. During the last 15 years since the General Population Census 1998, life expectancy at birth has increased from 58 years

to 71 years for women and from 54 years to 67 years for men. Cambodian population's age-sex structure reflects the past high mortality and low fertility rate during Khmer Rouge regime (1975-1979).

Figure 4.1 Trend of Population Change and Growth Rate in Cambodia



Source: Ministry of Planning, 2015.

The 30-34 years old cohort in 2008- and 35-39-years old cohort in 2013 illustrate the phenomena. The baby boom started right after 1979, but the huge baby boom occurred between mid-1980s and mid-1990s, during which the total fertility rate was about four children per one woman in productive age. After 1998, the total fertility rate was consistently declined: from 4.0 in 2000 to 3.4 in 2005 to 3.0 in 2010 and to 2.7 in 2014. Moreover, the age-sex structure indicates that population change from young to working-age population might have started even before 2008 and the increase in the working age population continues until today. The number of working age population aged 15-64 years old increased from 6.1 million in 1998 to 9.6 million in 2013. This number will increase to 11.0 million by 2020 and to 12.3

million by 2030, based on the population projection using Census 2008 data. Despite the increase in sheer number, the annual growth rate of working aged people is declining, with a sharp drop being around and after 2020 (Ministry of Planning, 2015).

The population age structure has been estimated to witness further changes. Even though the fertility levels are coming down rapidly, there will be an increase in absolute numbers due to the population momentum. Therefore, the population will increase to 18 million by 2028 and around 21 million by 2048. The annual population growth rate in 2048 is expected to be around 0.68 percent. The young population of around one-third in 2008 is expected to reach one-fifth by 2048. While there is a decline in young population, the working age population is expected to gain six percentage points and the elderly about eight percentage points in the coming 40 years. The resultant effect of this change is going to be felt in the dependency ratios or the potential support ratios. The overall and young dependency is expected to come down from the present levels while the old age dependency is likely to increase. This increase will be more pronounced from 2018 onwards and the momentum will accelerate thereafter. Cambodia, therefore, in the near future would have to overcome two challenges simultaneously: to cater to the youth and to start planning for the elderly from a development perspective (Royal Government of Cambodia, 2016).

4. 3. Education

In Cambodia, education system is controlled by the state through the Ministry of Education, Youth and Sport at the national level and by the Department of Education at the provincial level. The Constitution of Cambodia establishes that the state shall protect and upgrade citizen's rights to quality education at all levels, guaranteeing that all citizens have equal opportunity to earn a living. The state shall adopt an education program "according to the principle of modern pedagogy including technology and foreign languages," as well as the state controls public and private schools and classrooms at all levels. The Cambodian education system include pre-school, primary, general secondary, higher education and non-formal education.

The education system includes the development of sport, information technology education, research development and technical education. School enrollment has increased during the 2000s in Cambodia.

The adult literacy rate has witnessed substantial improvements over the past decade and rural-urban and gender disparities being prominent have narrowed in the 2008 population census. While literacy rate has been high, education attainment of the population in terms of secondary or post-secondary education, as well as technical and professional education, has remained low and this pattern is true for rural and urban areas and for males and females. Furthermore, rural-urban and male-female disparities in literacy are imminent and educational attainment beyond secondary level remains an area of high priority. However, there is an indication of improving school enrolment rates

both at primary and lower/upper secondary levels as measured through children attending school between 6-11,12-14, and 15-17 years, which may indirectly postpone entry of youth into labor force (Royal Government of Cambodia, 2016).

Phnom Penh had the highest rate in all geographical areas and it was about 92 percent for women and about 98 percent for men. Man, literacy was higher than women literacy in all areas.

Table 4.1: Adult Literacy (15 years and above) by Geographical Domain and sex, 2017 (In Number and Percent)

Domain	Women	Men	Both sexes
Number			
Cambodia	4,552,209	4,684,228	9,236,437
Phnom Penh	731,316	689,010	1,420,326
Other urban	637,638	629,209	1,266,846
Other rural	3,183,254	3,366,010	6,549,264
Percent			
Cambodia	78.1	87.3	82.5
Phnom Penh	91.9	97.5	94.5
Other urban	84.4	92.6	88.2
Other rural	74.4	84.6	79.3

Source: Ministry of Planning, 2018.

The literacy rate from 6 years and above was also highest in Phnom Penh with about 91 percent of women and 96 percent of men. The rate among men was higher than among women in all geographical areas. The literacy rate in Cambodia was highest among women and men in the age group 15-24 years. The literacy rate among men was higher than among women in all ages except in the age group 15-24 where the literacy rate was higher among women. The

difference between women and men was small in the younger ages and larger in the older ages (Ministry of Planning, 2018).

About 58 percent of the populations in the age group 6-24 years old were currently attending school in Cambodia. In Phnom Penh the rate was about 60 percent, in other urban areas was 62 percent and in other rural areas 56 percent. The school attendance was lowest in other rural areas for women and in other urban areas for men. The school attendance rate is highest in the age group 6-14 years old and was about 92 percent among women and just about 93 percent for men. The rate is lower in the age group 15-24 years old where only about 26 percent among the women and about 28 percent among the men were currently attending school. There were large differences in the level of education among the persons attending school. The pattern was the same for both women and men and the gender differences were small. Among all people attending school about 57 percent of the women and 61 percent of the men were attending primary school.

In Cambodia the net attendance rate in primary school (children aged 6-11) years was about 88 percent for women and 91 percent for men. The net enrolment rates for men were higher than for women almost all areas except in other urban areas, where the rates for women were higher than for men (ibid).

Table 4.2: Persons Aged 6-24 Years Who Currently Attending School by Geographical Domain and Sex, 2017 (In Number and Percent)

Domain	Women	Men	Both sexes
Number			
Cambodia	1,744,842	1,906,748	3,651,590
Phnom Penh	185,494	216,913	402,407
Other urban	242,346	241,115	483,460
Other rural	1,317,003	1,448,720	2,765,723
Percent			
Cambodia	56.6	58.4	57.5
Phnom Penh	57.3	63.2	60.3
Other urban	63.1	60.8	62.0
Other rural	55.5	57.3	56.4

Source: Ministry of Planning, 2018.

Table 4.3: Persons Aged 6-24 Years Who Currently Attending School by Specific Age Group and Sex, 2017 (In Number and Percent)

Age group	Number			Percent		
	Women	Men	Both sexes	Women	Men	Both sexes
6-24	1,744,842	1,906,748	3,651,590	56.6	58.4	57.5
6-14	1,299,706	1,409,814	2,709,519	91.6	93.3	92.5
15-24	445,137	496,934	942,071	26.8	28.3	27.6

Source: Ministry of Planning, 2018.

Table 4.4: Net Attendance Rates in Primary School by Geographic Domain and Sex, 2017 (In Number and Percent)

Domain	Women	Men	Both sexes
Number			
Cambodia	830,985	910,264	1,741,249
Phnom Penh	71,590	100,875	172,465
Other urban	109,234	102,381	211,615
Other rural	650,161	707,009	1,357,170
Percent			
Cambodia	87.9	91.1	89.6
Phnom Penh	90.8	91.7	91.3
Other urban	90.6	88.7	89.7
Other rural	87.2	91.4	89.3

Source: Ministry of Planning, 2018.

4. 4. Health Service

Adequate health infrastructure not only facilitates and supports the delivery of health services but also provides the capacity to delivery effective and efficient health services. In this context, Ministry of Health forms the basis for a sound investment to deliver health services close to the population, and enhance capacity of health facilities to provide both essential health services mainly at health centers (HCs) and specialized services mainly at referral hospitals (RHs) to meet the population's health needs.

Though the country has made major strides in improving the overall health status of the population by way of reducing its fertility levels, increasing life-expectancy and improving reproductive and child health indicators, it still has a long way to go in achieving the goals, it has set for itself. The total fertility rate has declined; yet the level of unmet need for birth spacing is high, as there are a substantial number of couples and younger couples who intend to use birth spacing services in future. If the unmet need for birth spacing is addressed, then demographic and health status of the population would be improved. In connection with urbanization and migration, the behavior aspect of fertility decline is expected to occur. With regard to the maternal mortality ratio, efforts to ensure further decline will have to be made. The infant mortality rate is also reducing. Nonetheless, in order to reduce it further, there is a need to address infant and childhood diseases of ARI and diarrhea and more importantly improve the nutritional status of children. The CDHS revealed little

improvement of children's nutritional status in 2010, but the improvement was observed in 2014 (Royal Government of Cambodia, 2016).

As indicted in Table 4.5 below, the most common provider was sought by the household member who needed care for illness, injury or other health problem in the last 30 days is a private health care provider, which constitutes about 75 percent, and followed by public health care provider, with about 21 percent in Cambodia. For household member who had used self-care as the first treatment, the share is about two percent only.

Table 4.5: First Provider of Health Care among Household Members Who Were Seeking Care in the Last 30 Days by Sex. 2017 (In Percent)

Provider of health care	Women	Men	Both sexes
Public	18.9	22.5	21.1
Private	78.1	73.4	75.2
Self-care*	1.6	2.1	1.9
Traditional care	0.6	0.9	0.8
Overseas	0.9	0.8	0.9
Other	0.0	0.3	0.2
Total	100	100	100

Source: Ministry of Planning, 2018.

As the health care system in Cambodia is largely a fee-based system, it is important to know the source of the money used to pay for health care. One goal of the health care system is to have appropriate funding mechanisms for the population to acquire health care without deepening poverty. Table 6 shows different sources of money spent by persons who had sought treatment for health care. About 58 percent of money spent on health care came from the household income, 38 percent from savings, and rounding of 1 percent from borrowing. For all geographical domains in Cambodia, the two most common

sources of financing treatment for health care are the household income and savings. The use of household income for health care is remarkably higher in Phnom Penh than in other urban and other rural areas. In other rural areas, savings are used to a higher extent.

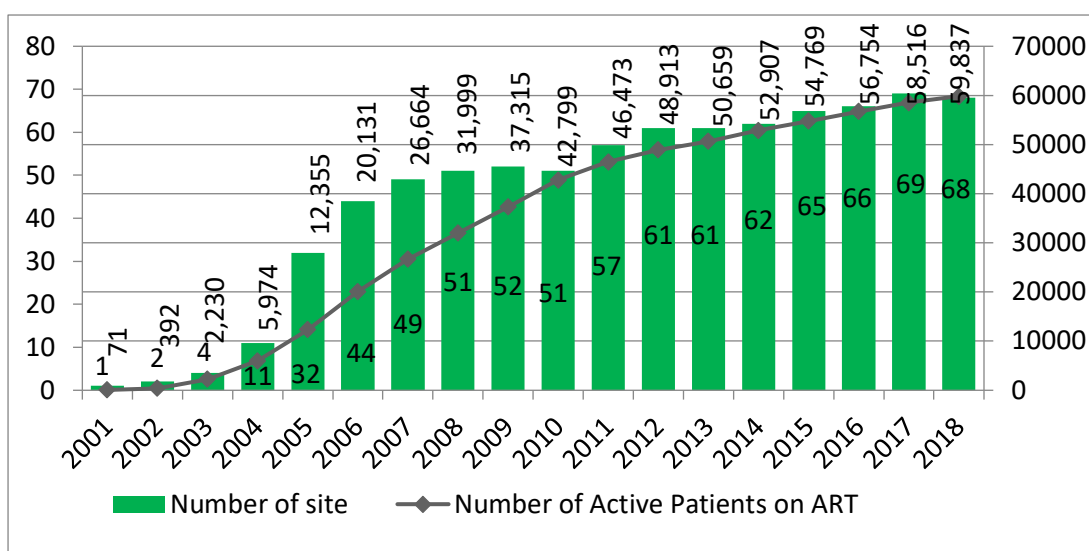
Table 4.6: Source of Financing Spent by Household Members Who Sought Treatment for Health Care by Geographical domain, 2017 (In Percent)

Source of financing for health care	Cambodia	Phnom Penh	Other urban	Other rural
Household income	58.4	79.9	61.6	56.2
Savings	37.9	18.4	34.8	40.0
Borrowing	1.2	1.2	0.8	1.2
Selling assets	0.1	0.0	0.0	0.2
Selling household production in advance	0.1	0.0	0.0	0.1
Other	2.3	0.5	2.7	2.3
Total	100	100	100	100

Source: Ministry of Planning, 2018.

Cambodia was shapely increasing the health facilities were providing the OI and ART service in all the Operation District (OD) in all provinces and cities from 32 sites in 2005 to 51 sites in 2010 and 68 sites in 2018. These 64 OI and ART services are supported by the government and 4 sites by NGOs and partner. Of the total 68 OI/ART sites, there are 41 sites provide pediatric care. The trend in providing ART care and treatment at OI and ART services were increasing accordingly from 42, 799 active patients since 2010 to 54,769 in 2015 and 59,837 at the end of quarter 4 of 2018 (Figure 4.2).

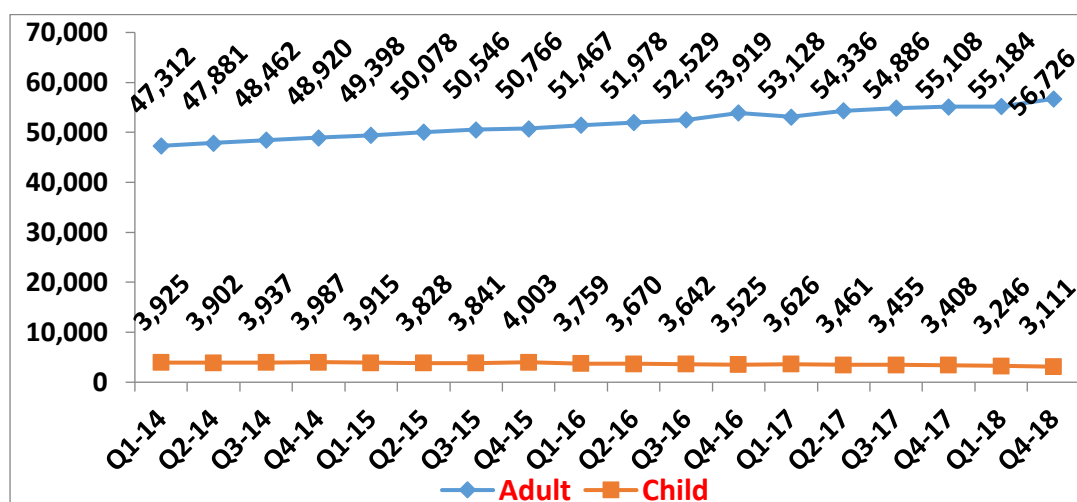
Figure 4.2: Trend of Number of Site and Number of Active Patients Receiving ART by year



Source: NCHADS, Ministry of Health, 2018.

By the end of year 2018, among of total of 59,837 active patients including 56,726 adults and 3,111 children are receiving ART. The trend of number of children receiving ART were decrease frequently by quarter to quarter and by year to year from 3,932 in beginning of 2014 to 4,003 in quarter four, 2015 and 3,111 at the end of 2018 (Figure 4.3).

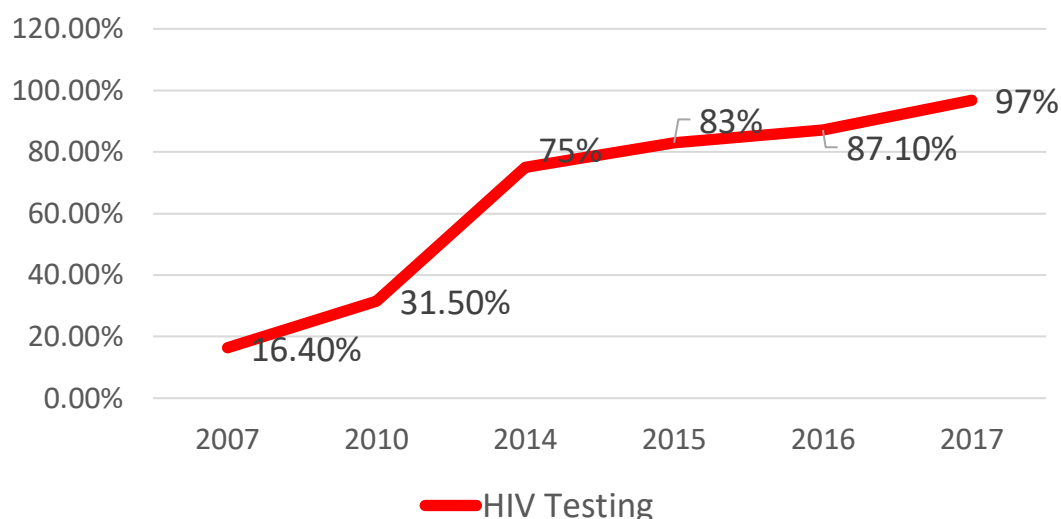
Figure 4.3: The Trend of Active Patients by Age till Q4, 2018



Source: NCHADS, Ministry of Health, 2019.

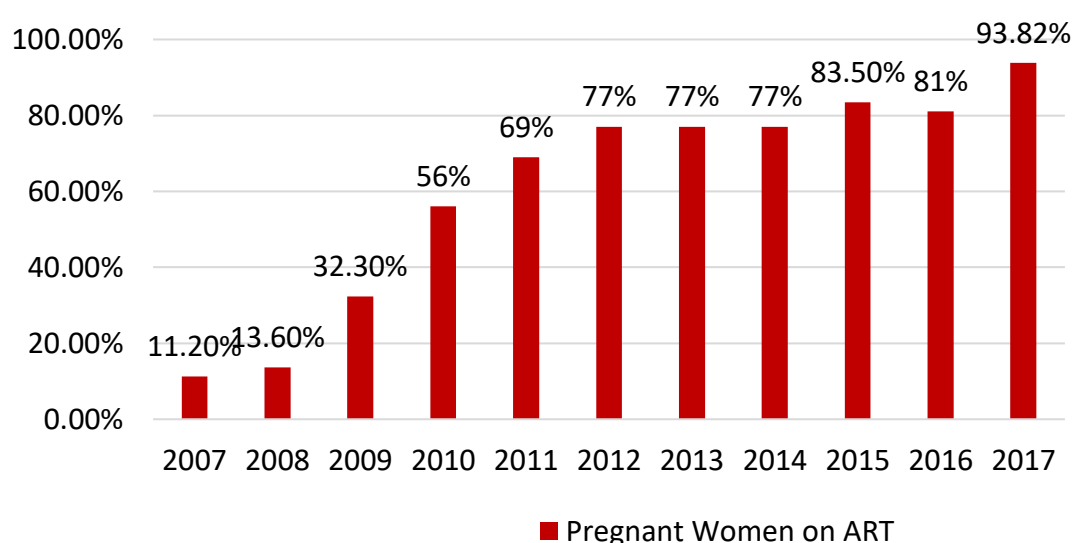
HIV testing among pregnant woman at ANC service and deliver at health facilities for Prevent Mother to Child transmission program (PMTCT) were increasing accordingly from 16 percent in 2007 to 75 percent in 2017 and 97 percent in 2017 (Figure 4.4).

Figure 4.4: HIV Testing for Pregnant Women



Source: NCHADS, Ministry of Health, 2018.

Figure 4.5: Pregnant Women on ART by Year

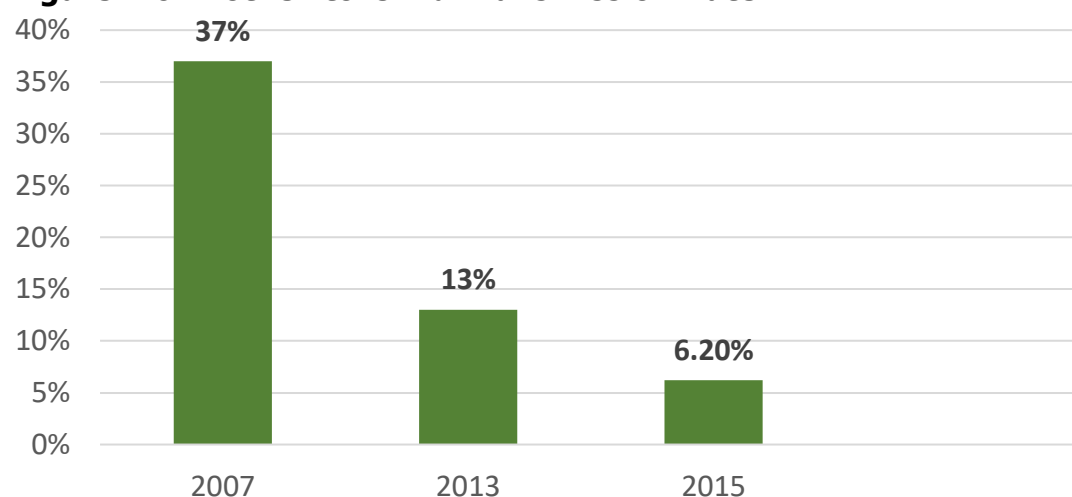


Source: NCHADS, Ministry of Health, 2018.

The percentage of HIV pregnant received care and treatment was increasing since 11 percent in 2007 to 77 percent in 2014 and 93,8 percent in 2017 (Figure

4.5). But the percentage of transmitted from parent to child was decreased from 37 percent in 2007 to 13 percent in 2013 and 6.2 percent in 2015 (Figure 4.6).

Figure 4.6: Mother-to-Child Transmission Rate



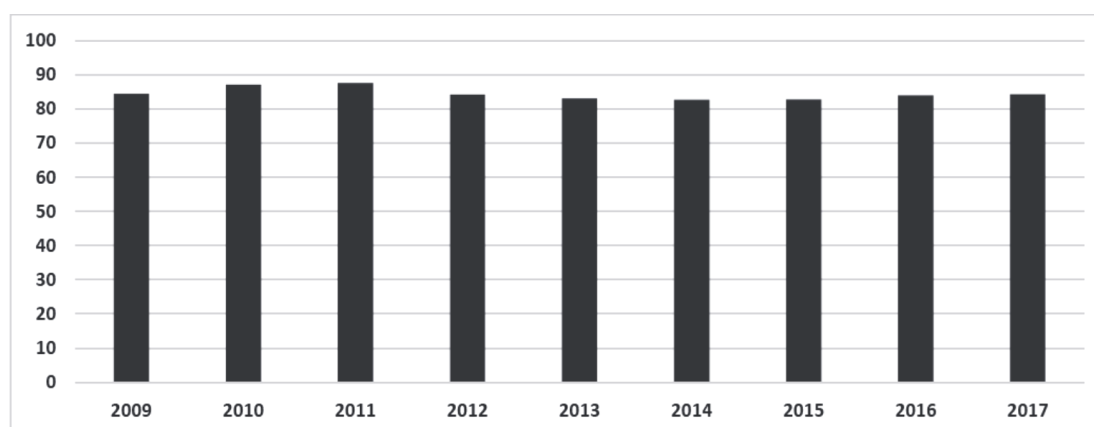
Source: NCHADS, Ministry of Health, 2016.

4. 5. Labor Force

The labor force consists of “economically active” persons those with employment and those who are unemployed but are looking for a job. Since Cambodian socio-economic survey (CSES) 2009 the population aged 15-64 years is adopted as the population of working age since international comparison often focus on this age group. Earlier CSES’s have focused on the age 15 years. The dependency ratio is defined as the number of children aged 0-14 years and elderly aged 65 years and above divided by the number of people aged 15-64 years, i.e., the dependency ratio is a ratio between those typically not in the labor force (the dependent part) and those typically in the labor force. According to the CSES result, the working age population (persons aged 15-64 years) increased with 1.6 million persons from 2009 until 2017. The

increase of the working age population has resulted in a slight decreasing dependency ratio (Figure 4.7).

Figure 4.7: The Dependency Ratios Aged (15-64 years), 2009-2017 (In Percent)



Source: Ministry of Planning, 2018.

The labor force participation rate, i.e., the labor force in relation to the working age population (15-64 years) is presented in Table 4.5. The table also shows the employment rate and unemployment rate. Employment rate is the share of the employed in relation to the working age population and unemployment rate is the unemployment in relation to the labor force. In 2017, the labor force participation rate in Cambodia was about 84 percent, about 80 percent for women and 89 percent for men. These rates were higher in other rural areas than in Phnom Penh and other urban areas. About 87 percent of the total population in the other rural areas were in the labor force compared to 75 percent in Phnom Penh and 81 percent in other urban areas (Ministry of Planning, 2017).

The differences in the labor force participation rate between women and men are also seen from the table. More men than women are in the labor force in all geographic domains. The gender difference in these rates is somewhat larger in other urban areas compared to Phnom Penh and the other rural areas. The employment rate of working age population aged 15-64 years was about 84 percent in 2017. In Cambodia, the difference between women and men was about 10 percentage points with an employment rate of about 80 percent for women and about 89 percent for men. Other rural areas had the highest employment rate with about 87 percent, followed by other urban areas with 80 percent and Phnom Penh with about 75 percent. According to the international definition, the total unemployment rate in Cambodia is very low. About 0.1 percent of the labor force was unemployed in 2017. It is acknowledged that the international definition of unemployment does not adequately capture the issue of employment, unemployment and underemployment in Cambodia. In Phnom Penh, the unemployment rate is rounding same rate of other urban areas with 0.3 percent, in other rural areas with 0.1 percent. In 2017, the highest rate for women and men are in the same rate about 30 percent, in which women and men are almost the same in the age group 25-34 years. In the youngest age group 15-19 years, about 11 percent for both sexes participated in the labor force. Age group 15-19, 20-24, 25-34 years, the participation rates for women are lower than men while other age groups are higher than men. The largest difference between women and men is in the age group 15-24 years where about 27 percent of the women and 30 percent of the men are in the labor force (ibid).

Table 4.7: Population and Labor Force Aged (15-64 years) by Sex and Geographical Domain, 2017 (Number in Thousands and Percent)

Labour force and sex	Number				Percent			
	Cambodia	Phnom Penh	Other urban	Other rural	Cambodia	Phnom Penh	Other urban	Other rural
Total population	15,848	1,948	1,977	11,923	100	12.3	12.5	75.2
Total working age population	10,416	1,419	1,345	7,652	65.7	72.8	68.0	64.2
Labour force	8,779	1,065	1,086	6,629	84.3	75.1	80.7	86.6
Labour force participation rate								
Women	4,291	504	527	3,259	80.1	67.8	75.3	83.2
Men	4,488	561	558	3,369	88.8	83.0	86.6	90.2
Both sexes	8,779	1,065	1,086	6,629	84.3	75.1	80.7	86.6
Employment rate								
Women	4,283	503	523	3,257	79.9	67.6	74.7	83.2
Men	4,483	558	558	3,367	88.7	82.7	86.5	90.1
Both sexes	8,766	1,061	1,081	6,624	84.2	74.8	80.4	86.6
Unemployment rate								
Women	8	1	4	3	0.1	0.2	0.6	0.1
Men	5	2	1	2	0.1	0.4	0.1	0.1
Both sexes	13	4	5	5	0.1	0.3	0.3	0.1

Source: Ministry of Planning, 2018.

4. 6. Tourism

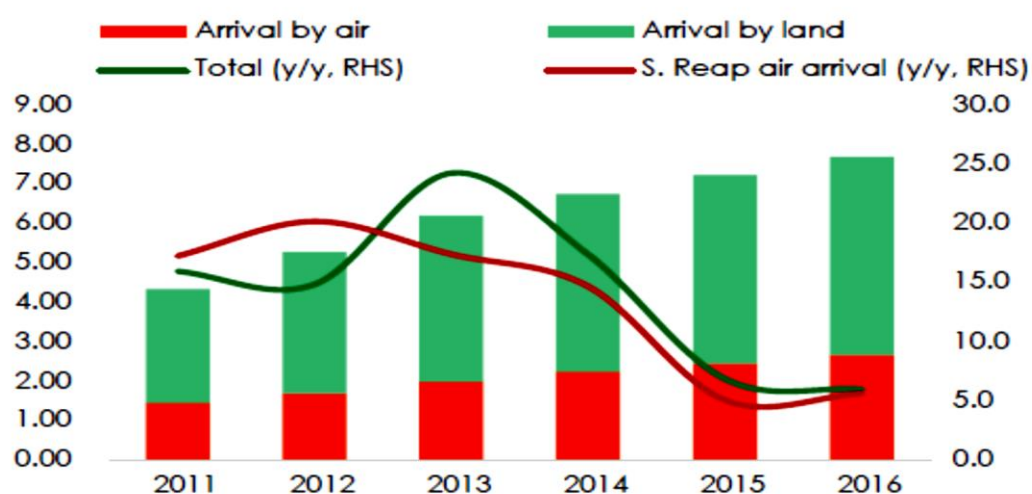
In Cambodia, tourist arrivals growth eased further, registering a 5.0 percent year-on-year increase, compared with 6.1 percent in 2015. International arrivals by air grew by 9.2 percent year-on-year in 2016, similar to the increase seen in 2015. Asia continued to be the major source of tourists and the top five Asian countries which, similar to 2015, accounted for about 60 percent of the market share in 2016. Vietnam, China, and Thailand are the main countries of origins, accounting for 19.1 percent, 16.6 percent, and 7.8 percent of the total share, respectively (Figure 4.8).

Efforts have been made to attract additional arrivals by establishing more direct flights and introducing new initiatives such as the “China Ready” initiative and joint tour packages. The role and organizational structure of the Ministry of

Tourism have also been strengthened. The Ministry of Tourism has been given a leading role in managing and developing the tourism sector, including human resource development, and has also been tasked with collaborating with other government agencies and the private sector to implement the Law on Tourism and the Tourism Development Strategic Plan.

There are signs of a gradual recovery in the tourism sector in early 2017. Arrivals from Western Europe and North America have picked up, although Asia continues to be the main tourism market for Cambodia. Diversification of tourist attraction sites beyond the Angkor Archeological Park is important. Currently, international arrivals remain largely driven by the Angkor complex located in the northeastern province of Siem Reap, despite the fact that Cambodia is endowed with countless historical, cultural and natural tourist destinations (World Bank, 2017).

Figure 4.8: Cambodia's International Arrivals Have Eased (Millions of visitors)



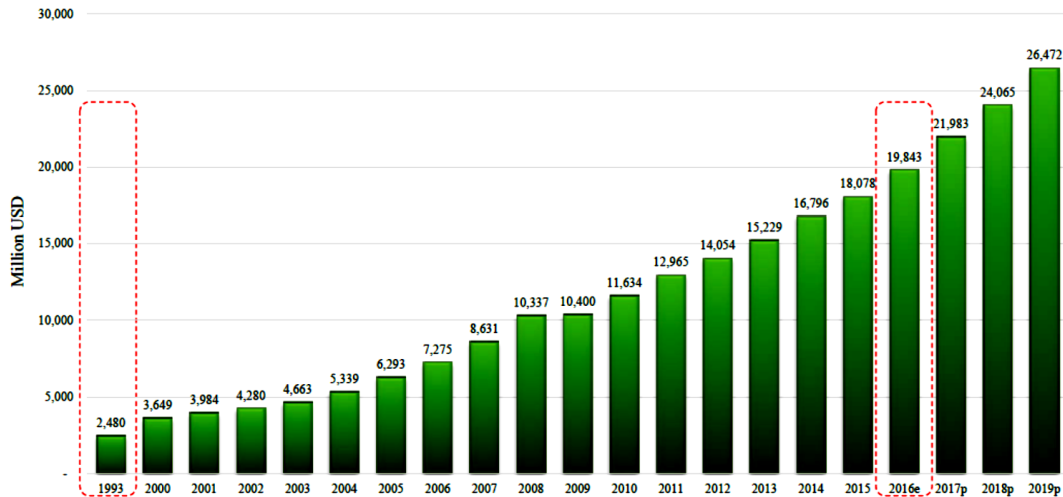
Source: World Bank, 2017.

4. 7. Economic Growth

Cambodia's current economic growth does not rely much on investment, which signifies that there is still room for more investment. An analysis on the contribution of expenditure to gross domestic product (GDP) indicates that the source of growth of over 70 percent of GDP depends on private consumption, 21 percent in investment, 12 percent in public expenditure of the government and other organizations, leaving export covering the rest. By the standard of developing countries, the contribution rate of investment should be between 30 percent and 40 percent or possibly higher in order to boost the economy to jump to the next level of development. As it stands, Cambodia's economic growth relies heavily on the garment, tourism, construction and rice sectors, implying there is a need to invest more to prop up new economic growth. In addition, the growth in some major sectors still rely primarily on external environment as the country's economic policies are totally market driven. In general, core sectors of the economy are determined by international trade activities. For example, the garment sector grew in response to the quota system of the US and the EU trade preferences; the rice export growth has witnessed a sharp increase. Furthermore, the tourism sector growth, which depends on our cultural heritage and nature, is linked to the growth of income. These opportunities have emboldened Cambodia to create the necessary economic base for modernizing its industrial sector, and to capture other emerging opportunities to propel its industrial development to a higher level. All in all, the industrial sector will play a crucial role once again in the growth strategy as a driving force for supporting medium to long-term growth, a

potential sector for job creation specifically for youth and a new reinforcement for the economy to absorb additional investment besides agriculture and tourism (Royal Government of Cambodia, 2015).

**Figure 4.9: Nominal Gross Domestic Product Growth 1993-2019p
(In Million US Dollars)**



Source: Ministry of Economy and Finance, 2016.

**Figure 4.10: Nominal Gross Domestic Product Per Capita Growth
1993-2019p (US Dollars)**



Source: Ministry of Economy and Finance, 2016.

4. 8. HIV/AIDS Status

Facing in the mid-1990s, one of the fastest growing HIV epidemics in Asia, Cambodia is at a critical juncture of its HIV response. In its third decade, the HIV response has transitioned into an elimination phase with less than 1,000 new HIV infections per year since 2013. Cambodia has in the last decade become one of the few countries to have reversed its HIV trend with a decline of HIV prevalence from an estimated 1.7 percent (among adults aged 15-49) in 1998 to a projected 0.6 percent in 2015. New HIV infection has significantly declined over the last five years and Cambodia has achieved a high coverage of antiretroviral treatment of 74.5 percent in 2015 among all PLHIV.

Alongside with the decline in HIV prevalence among the general population, it has been noted that key populations (KP) such as entertainment workers (EW), drug users, transgender people (TG) and men who have sex with men (MSM) remains the most vulnerable groups that requires special attention in the provision of prevention, care and treatment services. Whilst, the HIV prevalence among female entertainment workers (FEW) has gone down from 20.8 percent in 2003 to 14 percent in 2010, the upward trend in HIV prevalence has been recently observed among MSM and TG people [MSM- 2.16 percent in 2010 to 2.3 percent in 2015 and TG 4.6 percent in 2012 to 5.9 percent in 2016]. People who inject drugs (PWID) continue to have the high prevalence of 24.4 percent in 2012. The national response has been increasingly focusing on the key affected populations with adoption of innovative and cost-effective strategies to reach the most hidden of the key

population with HIV prevention and treatment services. According to these current estimates and projection, there are estimated 72,601 People living with HIV (PLHIV) in Cambodia at the end of 2015. With continued targeted and effective prevention interventions and by sustaining and scaling up the current high coverage of ART, Cambodia is poised to become the first low-income country to achieve the global targets of 90-90-90 by 2020 and virtual elimination of HIV transmission by 2025 (Ministry of Health, 2016).

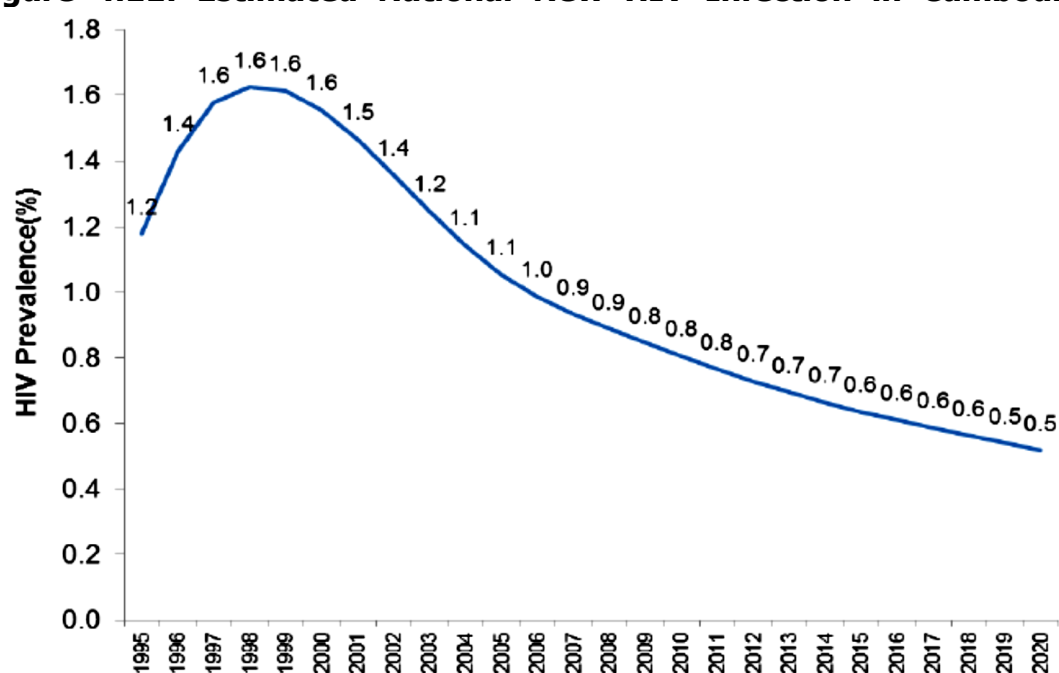
An estimated 75,000 Cambodians in 60,000 households are living with HIV on a daily basis. While government programs have expanded to improve the quality of life for people living with HIV (PLHIV), many still fall through the gaps, failing to get access to prevention, treatment, care and support services. HIV frequently drives people, rich and poor, out of the labor market and into economic distress, and they frequently face a negative spiral of stigma and discrimination. Additionally, increased morbidity and mortality affect family structures, leaving a third of HIV-affected households with a child orphaned by HIV (National AIDS Authority, 2010).

Cambodia has made great strides in fighting the HIV/AIDS epidemic. The epidemic in Cambodia has been on a steady decline since the late 1990s, with HIV prevalence falling from around 1.7 percent in 1998 to 0.6 percent in 2015 (National AIDS Authority, 2015). Antiretroviral treatment (ART) is used by an increasing proportion of people living with HIV (PLHIV), with 75.4 percent of PLHIV receiving ART at the end of 2015 (National AIDS Authority 2015). To achieve this, Cambodia has used a multi-sectoral response to HIV and AIDS,

which has enabled it to successfully prevent HIV infections among high-risk groups such as injecting drug users (IDU), men who have sex with men (MSM), and female entertainment workers. The government of Cambodia is aiming to eliminate new HIV infections by 2025, by achieving 90-90-90 targets by 2020, i.e., 90 percent of people living with HIV diagnosed, 90 percent of those diagnosed on Antiretroviral Therapy (ART), and 90 percent of those on treatment are virally suppressed (National AIDS Authority, 2016).

Cambodia faces challenges in achieving its ambitious targets in working toward an AIDS-free generation. The World Bank's recent revisions of income classifications in 2016 changed Cambodia's status from low-income to lower-middle income. Funding for the country has already decreased in the last few

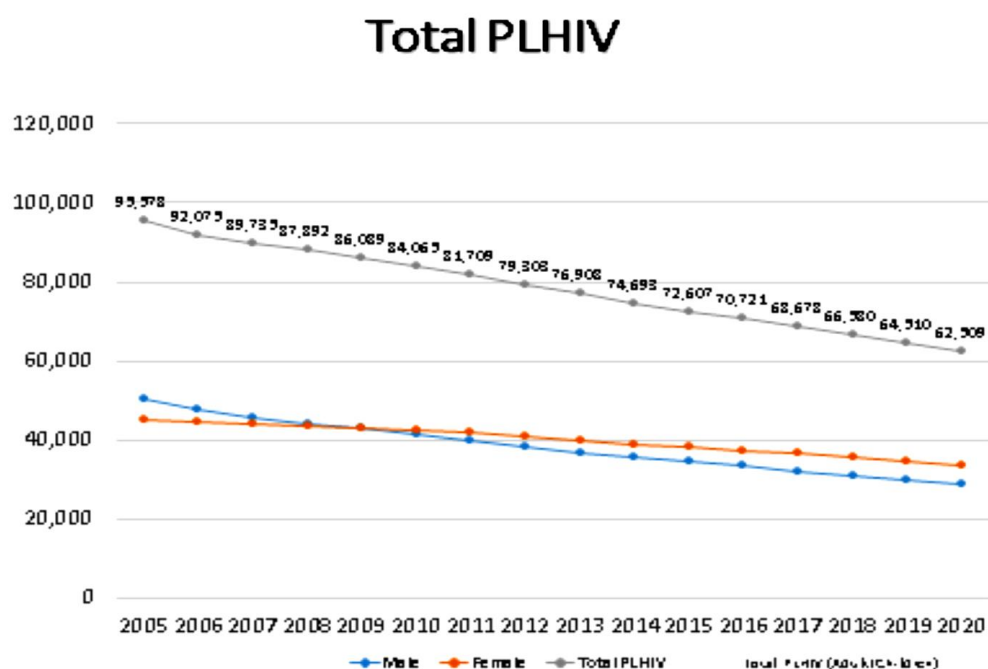
Figure 4.11: Estimated National New HIV Infection in Cambodia



Source: National Centre for HIV/AIDS, Dermatology and STD, 2017.

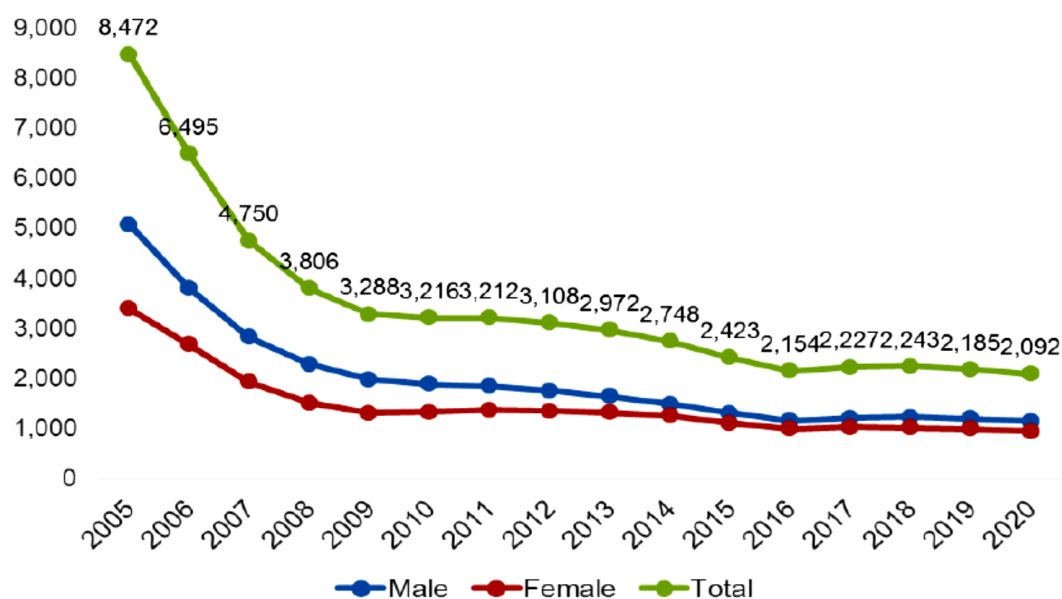
years and the change in its income-status risks further reductions in this funding.

Figure 4.12: Estimated Number of PLHIV in Cambodia



Source: National Centre for HIV/AIDS, Dermatology and STD, 2016.

Figure 4.13: Estimated Deaths in PLHIV in Cambodia

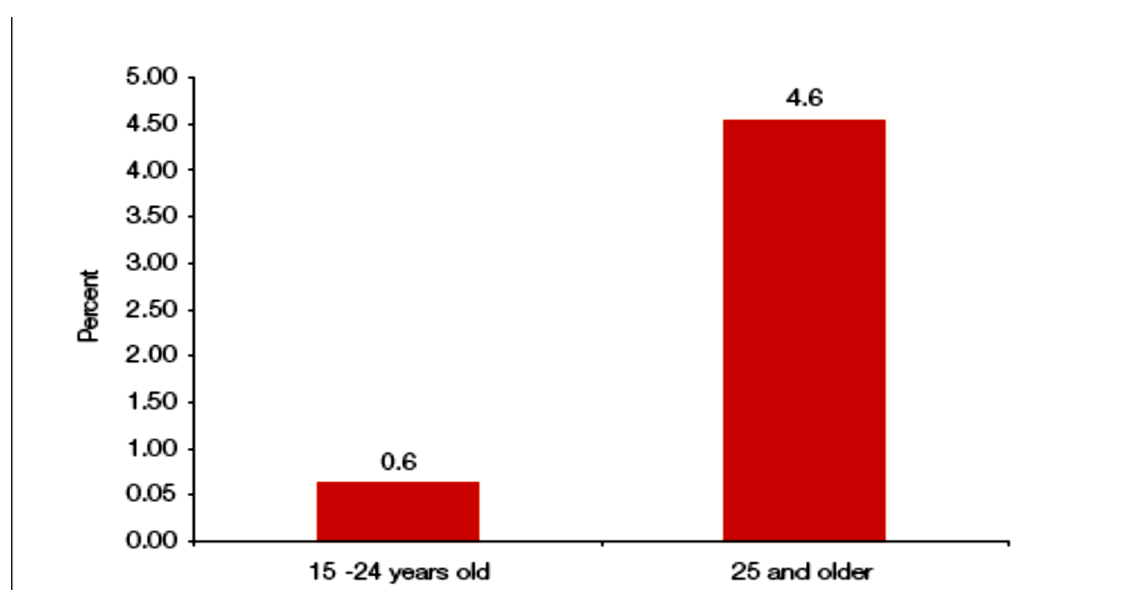


Source: National Centre for HIV/AIDS, Dermatology and STD, 2016.

4. 8. 1. Men Who Have Sex with Men (MSM)

Globally, men who have sex with men (MSM) are recognized as a population with high risk of HIV infection. According to a 2012 review, HIV prevalence among MSM ranged from as low as 3.0 percent in the Middle East to as high as 25.4 percent in the Caribbean countries. In all the countries included in the review, the prevalence is substantially higher than that among the general population reported in UNAIDS's 2009 projection. HIV infection is also widespread among MSM throughout Asia, with the highest prevalence rate of up to 35.0 percent. In 2006, Asian MSM had 18.7 times the odds of being HIV infected compared with the general adult population. Government and donor investments in HIV prevention programs for MSM are insufficient, particularly when compared with the proportion of MSM transmission to the overall HIV epidemic.

Figure 4.14: HIV Prevalent among MSM Stratified by Age Groups



Source: National Centre for HIV/AIDS, Dermatology and STD, 2016.

Similar to other settings, MSM share a significant role in driving the HIV epidemic in Cambodia. A study in 2010 reported that MSM had the prevalence rates of HIV and sexually transmitted infections (STI) at 2.2 percent and 51.5 percent, respectively. The HIV prevalence among MSM was almost three times higher than that among the general population aged 15-49 years old in the same year. Also, risky sexual behaviors among this population remain rampant. According to the recent study, only 38.1 percent of MSM reported always using condoms in the past month when having sex with male sex workers (www.pubs.sciepub.com, 24.01.2019).

The estimated size of MSM in Cambodia was 31,000. Of the total, 52 percent were in urban areas; 89 percent were sexually active; and 65 percent were reachable MSM. Phnom Penh had the largest MSM population. More than two-thirds (69.4 percent) of MSM reported always using condoms in the last month. The majority (71.6 percent) of them reported receiving HIV information, while 66.6 percent and 49.3 percent reported having been tested for HIV and sexual transmitted infections (STI), respectively in the past six months. Eight percent reported having at least one STI symptom in the past 12 months; of whom, 93.6 percent reported receiving treatment for the most recent symptoms. HIV prevalence among MSM in this study was 2.3 percent. The highest HIV prevalence was found in Siem Reap (5.9 percent) and Phnom Penh (3.0 percent). The prevalence was higher among MSM aged 25 years or older (4.6 percent) and those with lower formal education level (4.5 percent). MSM who reported sex work being their main job had the highest HIV prevalence (17.2

percent) compared to those in other occupation categories who had a prevalence ranging from 1.0 percent to 4.7 percent. With success in bringing down the HIV prevalence in the general adult population from the peak of about 2.0 percent in 1998 to 0.6 percent in 2014, Cambodia is hoping to achieve its new goals through the Cambodia 3.0 strategy aiming to eliminate new HIV infections in Cambodia by 2020 through advancement in HIV prevention and treatment (NCHADS, 2016).

4. 8. 2. Transgender (TG)

Transgender women have a high risk of HIV transmission globally. Research demonstrates that transgender (TG) those who engage in transactional sex and those who do not have higher HIV prevalence rates than male or female sex workers. According to a recent systematic review and meta-analysis, transgender carry a very high burden of HIV with a pooled prevalence of 19.1 percent across 15 countries, five of which were in Asia. Sites with the highest HIV prevalence were India, Argentina, Peru, and Indonesia, suggesting that transgender are a high priority population group for intensive combination prevention interventions and access to ARV treatment (NCHADS & USAID, 2013).

Similar to the global situation, transgender in Cambodia have an elevated risk of HIV acquisition. According to a 2005 study of sexually transmitted infections (STIs), transgender had an HIV prevalence of 9.8 percent. According to a 2010 study conducted among high-risk men, an estimated 2,686 transgender people in the seven cities transgender participants had a prevalence of 2.6 percent.

Transgender also had high rates of sexually transmitted infections (STIs) (27 percent), including rectal or urethral chlamydia, gonorrhea, or syphilis. Transgender also appear to have high risk practices. According to the 2007 Behavioral Sentinel Surveillance, 60 percent of transgender ever sold sex, and among all who had sold sex. Further, the first sexual partner of transgender usually a man (93 percent), compared to, for instance, MSM, for whom it was more often a woman (56 percent). Transgender also reported inconsistent condom use with all sexual partners (ibid.).

4. 8. 3. Female Entertainment Worker (FEW)

HIV risk remains high in Cambodia among FESW. High numbers of sexual partners and non-injection ATS use are associated with elevated HIV risk and infection rates in this population. Cambodia has achieved substantive progress in reducing the spread of HIV at a population level; the estimated number of new infections has fallen 95 percent from a peak of 24,348 in 1995 to 651 in 2015. Comprehensive deployment of basic HIV prevention programs including condom promotion, HIV voluntary counseling and testing, and high coverage of HIV antiretroviral treatment (ART), have contributed to these declines. However, women engaged in entertainment and sex work remain disproportionately impacted. In addition to individual risks, structural factors present challenges for HIV prevention among FEW. Anti-trafficking legislation aimed at suppressing human trafficking and sexual exploitation amplified HIV risks: brothel closures and migration of working women to entertainment venues and street-based sex work had negative impacts on access to HIV and

STI prevention and health services. Stigma, discrimination and violence further contribute to risk and negative health outcomes. Cambodia has a national strategic goal of achieving elimination of new HIV infections by 2020 (Muth et al., 2017).

4. 8. 4. People Who Inject Drugs (PWID) and People Who Use Drugs (PWUD)

The prevalence of HIV in PWUD and PWID population remains high despite the decline in HIV prevalence in the general population. A large proportion of PWUD and PWID remained unaware of their HIV status. The prevalence of HIV was generally higher in female than in male participants among both PWUD (8.5 percent in women versus 3.9 percent in men) and PWID (21.7 percent versus 12.8 percent). For both PWUD and PWID, HIV prevalence was the highest among participants in the age group of 30 to 39 (9.4 percent among PWUD and 21.9 percent among PWID), followed by participants in the age group of ≥ 40 (5.0 percent among PWUD and 16.7 percent among PWID), participants in the age group of 25 to 39 (4.7 percent among PWUD and 10.5 percent among PWID), and participants in the age group of 18 to 24 (3.5 percent among PWUD and 1.7 percent among PWID). The prevalence of HIV was significantly higher among participants who reported having sexual intercourse in exchange for money or gifts in the past three months compared to those who did not, in both PWUD (8.4 percent versus 3.7 percent) and PWID (13.9 percent versus 15.9 percent) (NCHADS, 2019).

4. 8. 5. Mother-to-Child Transmission (MTCT)

HIV prevalence among pregnancy women (PW) in Cambodia has fallen because of the success of the country's HIV prevention efforts, and the substantial progress of Cambodia's prevention of mother-to-child transmission of HIV (PMTCT) program. The modeled rate of transmission has declined to 6.2 percent at 6 weeks in 2015 from an estimated 37 percent in 2007. However, the MTCT rate at the end of breastfeeding period, projected for 2017, is 13 percent. This is worrisome, and indicative of programmatic challenges identifying HIV+ PW, initiating them on ART, and providing prophylaxis, care, and testing to HIV-exposed infants (HEI). Cambodia has set a goal to eliminate MTCT of HIV by 2025. Of the five process indicators by WHO to be elimination-certified, the first indicator of more than 95 percent ANC coverage, has already been achieved. Substantial progress has also been made towards the other four indicators (NCHADS, 2018).

In conclude, the health care system in Cambodia is largely a fee-based system, it is important to know the source of the money used to pay for health care. One goal of the health care system is to have appropriate funding mechanisms for the population to acquire health care without deepening poverty. Particularly, Cambodia has made great strides in fighting the HIV/AIDS epidemic. Socio economic factors such as demographic, population change and distribution, labors, education, tourism, and economic growth are influencing the HIV/AIDS status. Health system, HIV/AIDS program and financing, is playing a significant role in responding to HIV/AIDS. Alongside with the decline

in HIV prevalence among the general population, it has been noted that key populations (KP) such as entertainment workers (EW), drug users, transgender people (TG) and men who have sex with men (MSM) remains the most vulnerable groups that requires special attention in the provision of prevention, care and treatment services.

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CHAPTER V

FINANCING OF HIV/AIDS IN THE STUDY AREA

The chapter discusses the details of the sources, amounts and the utilization of HIV/AIDS financing over a period of time in Cambodia. Besides, the chapter also highlights HIV/AIDS status, interventions, issues and challenges in the country.

5. 1. Health Financing

Health financing in Cambodia is in transition, primarily as a consequence of generally declining donor contributions to many middle-income countries including Cambodia, and the country's rapid economic development, which gradually reduces its eligibility for aid. Gross Domestic Product (GDP) per capita was estimated at USD 1,390 in 2017, and economic growth averaged 7.1 percent in 2012-2017. Further, the Royal Government of Cambodia (RGC) has successfully expanded domestic revenues, with tax revenues increasing more than five percent annually from 2011 to 2016 and currently estimated to be at 15.3 percent of GDP. However, Cambodia still relies heavily on external donors for health financing. On average, 20 percent of funding for health spending comes from the RGC, 20 percent from external donors and 60 percent of health spending is from out-of-pocket private expenditures. The largest disease-specific external contribution is to the HIV response, amounting to USD 42 million in 2014 and accounting for 83 percent of the total expenditures for HIV. Although the HIV program is largely externally financed, domestic financing has increased steadily from three percent of total funding in 2009 to 17 percent in

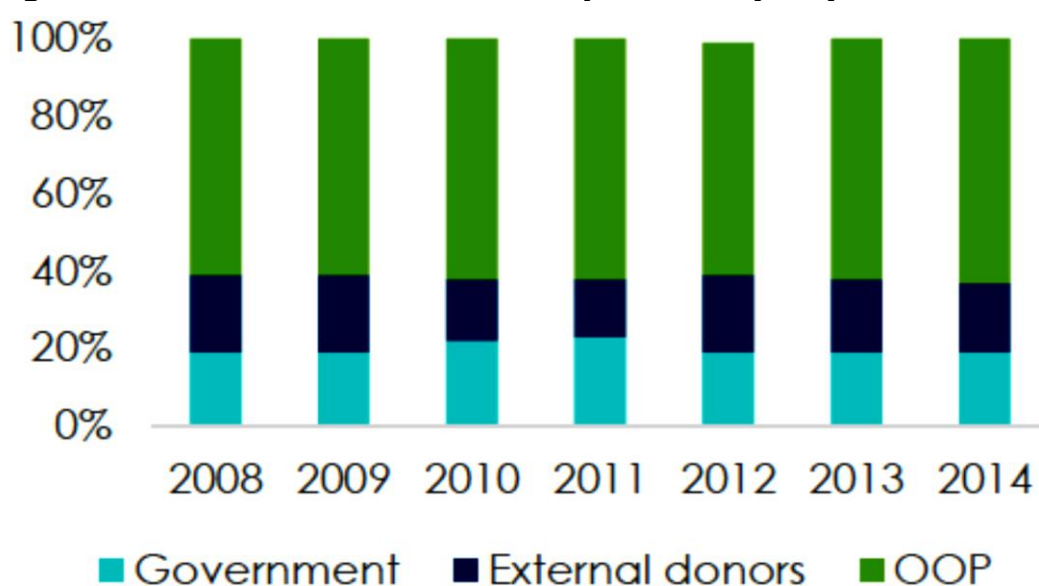
2015. Health financing in Cambodia is highly fragmented at present. Funds are transferred to the Ministry of Health (MOH) from the Treasury Single Account but also directly to the provincial health system. The Ministry of Health in turn transfers funds to national centers, national hospitals and regional training institutions. The Ministry of Economy and Finance (MEF) also transfers funds to provincial governors for spending on health. Further fragmentation arises due to transfers to provincial health departments from the Ministry of Health (MOH) directly or via national centers. Although most development assistance is disbursed and delivered through the public sector the management of external funding tends to be separated from public financial management procedures. Decentralization and de-concentration may add to this complexity if not carefully addressed. Given the above, some level of inefficiency, both administratively but also in terms of resource allocation and expenditure management, seems inevitable. There may be an opportunity for Cambodia to consolidate funding flows for health generally and specifically for HIV resulting in a more efficient allocation and use of funds (NAA & UNAIDS, 2018).

Per capita government expenditure on health in Cambodia has increased from an estimated USD 7.84 in 2008 to USD 12.70 in 2014. However, government health expenditure (GHE) as a proportion of total health expenditure (THE) has remained virtually unchanged. Further, GHE as a percentage of both Gross Domestic Product (GDP) and general government expenditure remains low 1.3 percent and 6.1 percent, respectively. Although the government increased the health budget as a percentage of the total budget from 6.8 percent to 7.6

percent from 2008 to 2014, this increase falls short of the recommended 15 percent of the government budget to be allocated to health. The majority of total health expenditure (THE) is from out-of-pocket (OOP) payments. Insufficient financial protection in Cambodia led to 6.3 percent of the total population experiencing catastrophic health expenditures in 2013. Funding from external donors decreased slightly, from 20 percent to 18 percent of total health expenditure (THE) from 2008 to 2014, and is anticipated to continue declining. According to the latest National Health Accounts (NHA), nearly half (48 percent) of health expenditures are at public providers; this share has increased over time. Public health facilities charge user fees; only those with an IDPoor card receive services for free. Poor quality healthcare remains a challenge in the private and informal sectors. Cambodia has the building blocks to achieve universal health coverage (UHC) in the long-run, with UHC strategies outlined in its draft National Health Financing Policy. The draft policy, developed in 2014, calls for three social health protection schemes for formal private sector employees, civil servants, and the poor and non-poor informal sector population. Cambodia already offers high coverage among the poor; the Health Equity Fund (HEF), a pro-poor health financing mechanism that reimburses the full or partial cost of health services provided to the poor at public health facilities, covered 90 percent of the identified poor in 2014. The Ministry of Health (MOH) aims to expand health equity fund (HEF) to other vulnerable populations and include it under a proposed National Social Health Protection System. Cambodia has three major health financing sources: (1) the government's general revenues; (2) donors' development assistance; and (3)

individuals' out-of-pocket payment (OOP) payments for receiving services. The government and donors finance about the same share (20 percent) of the health sector. Although total health expenditure (THE) as a percentage of GDP is among the highest for low- and middle-income countries in the region, GHE as a percentage of GDP is among the lowest, suggesting room for growth in government expenditure on health. Tax revenue as a share of GDP is small but has increased slightly, from 9.6 percent in 2009 to 11.6 percent in 2012. There are no taxes earmarked for health, such as a "sin tax." There is insufficient risk pooling in Cambodia. In 2015, 2.6 million people, or 17 percent of the total population, were covered through social or voluntary health insurance or government subsidies such as health equity funds (HEF) (Health Policy Project, 2016).

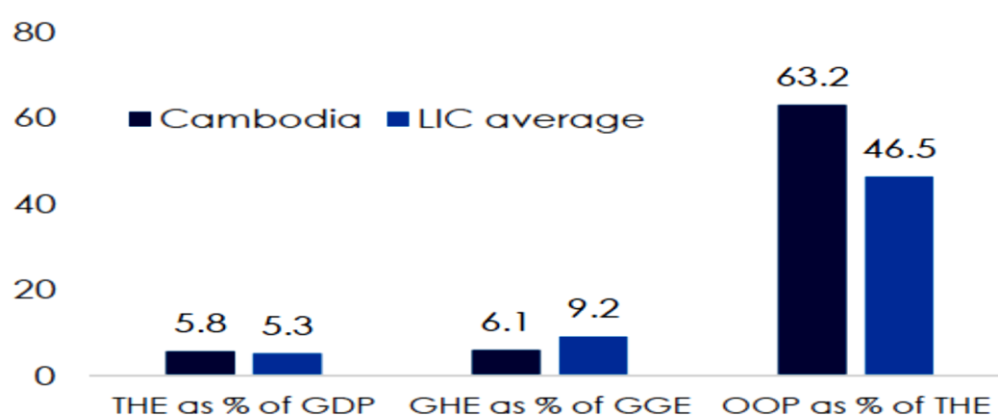
Figure 5.1: Shares of Total Health Expenditure (THE)



Source: Health Policy Project, 2016.

Cambodia has at least seven community-based health insurance schemes that cover less than one percent of the population. Formal sector social health protection schemes are not operational, except for an injury scheme under the National Social Security Fund (NSSF), but the government decided in 2016 to launch a health insurance scheme for employees in the private sector and public servants. This will be rolled out over the next few years. The Ministry of Health (MOH) is working to improve pooling by considering expansion of HEF to vulnerable groups other than the poor, such as the elderly, people with disabilities, and children under five. Purchasing Provider purchasing mechanisms in Cambodia include line items from the government budget; user fees; performance-based payments; case-based payments from the HEF; capitation, case-based, and fee-for-service payments from small community-based health insurance; output-based payments to midwives for facility deliveries; and subsidization of user fees from national programs, donors, and nongovernmental organizations. Government budget line items pay for infrastructure, health worker salaries, and in-kind distribution of pharmaceuticals and commodities. HEF is implemented through a third-party implementer and a third-party operator according to a standard benefit package and payment mechanism. Benefit packages covered under HEF include reimbursement for medical services in public facilities and other costs such as transportation, care-taker allowance, food, and funeral costs. Multiple mechanisms have led to fragmented financial management (ibid).

Figure 5.2: Comparative Health Expenditure (2014)



Source: Health Policy Project, 2016.

5. 2. HIV/AIDS Infection Status and Financing

Cambodia is one of seven countries globally to have achieved the 90-90-90 targets in 2010⁷. 87 percent of People Living with HIV (PLHIV) know their status, 98 percent of those are on anti-retroviral therapy (ART), and an estimated 83 percent of PLHIV on ART have achieved viral suppression. These achievements have been driven by the strong support from the Royal Government of Cambodia and the work of local Civil Society Organizations (CSOs) dedicated to the response, however, the HIV response in Cambodia is largely funded by external sources. In 2015, Cambodia became a lower middle-income country and donor support has already begun to decline. As external support continues to decline in Cambodia and the country eventually transitions to a HIV response funded entirely from domestic sources, it is critical for Cambodia to sustain the gains that have been achieved in prevention, treatment, care and support (NAA & UNAIDS, 2018).

Cambodia's HIV response over the past two decades has been highly successful and has led the country to be one of seven globally to achieve the 90-90-90

targets (that translates into 80 percent of all people living with HIV being virally suppressed). The number of new HIV infections has fallen to approximately 523 in 2017 and 58,5162 of the 68,244 people living with HIV were receiving anti-retroviral therapy (ART) in Cambodia by the end of December 2017. Cambodia's successful HIV program has emerged from a sound policy and strategic framework that dates back more than two decades. The national strategies and goals complement Cambodia's legal framework, which is, overall, conducive to creating an enabling environment for the HIV response.

The achievements described above, while driven by the Cambodian government, have been heavily dependent on external financial and technical support. International investments amounted to 82 percent of financing for the HIV response in 2015. Cambodia has made significant economic and social progress and became a lower middle-income country, affecting its Global Fund allocation. Analyses conducted in 2017 show that donor support is likely to continue to diminish in the coming years. The impressive achievements of declining new infections, high treatment coverage, and increasing rates of viral suppression could be in jeopardy unless the Royal Government of Cambodia and other stakeholders take steps to identify transition and sustainability risks and develop actions to mitigate them (NAA & UNAIDS, 2018).

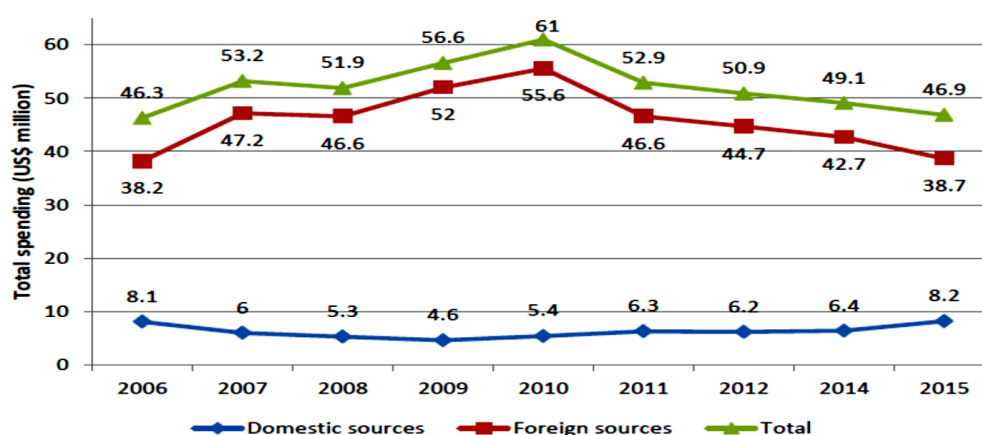
The Royal Government of Cambodia (RGC) has steadily increased its contribution to the AIDS response since 2009. In 2015, the contribution increased significantly, by 28 percent, including for the first-time funds (approximately USD one million) for the purchase of antiretroviral drugs (ARVs)

and drugs for opportunistic infections. Despite this increase in domestic funding, Cambodia's AIDS response remains reliant on external sources of funding. External sources have represented more than 80 percent of total spending since 2009, although their proportion of total spending has fallen, from 92 percent of total spending in 2009 to 83 percent in 2015. As indicated in Figure 5.3, 5.4, the Global Fund is the single largest source of spending for Cambodia's AIDS response. In 2014, funding under the Global Fund's Single Stream of Funding was approved for 2014 and 2015. However, the introduction of its New Funding Model in March-April 2015 extended this two-year funding allocation to four years (2014-2017), essentially cutting the Global Fund annual contribution in half. However, a large procurement of ARVs in 2014 helped to fund the ARV needs in 2015. The spread of this procurement over 2014 and 2015, together with increases in RGC and The President's Emergency Plan for AIDS Relief (PEPFAR) contributions somewhat compensated for the cut, limiting the decrease in total spending in 2015 to USD 2.3 million.

The Global Fund remains the single biggest source of HIV/AIDS financing in Cambodia (41 percent in 2015). The 2015 spending fell by 22 percent in 2015 to USD 19 million. As explained above, higher than expected spending in 2015 is partly due to a portion of the ARV procurement spending in 2014 allocated to 2015 to reflect real consumption. The RGC's share increased from 13 percent to 18 percent in 2015. PEPFAR's share increased from 23 percent to 29 percent in 2015 (USD 11.4 million to USD 13.7 million). The United Nation's spending

decreased from USD 2.3 million (4.7 percent) in 2012 to USD 1.9 million (4.1 percent) in 2015.

Figure 5.3: Trend in Domestic and Foreign Sources of Spending for AIDS, 2006-2015 (excluding 2013)



Source: Cambodia's Fifth National AIDS Spending Assessment (NASA), 2014-15.

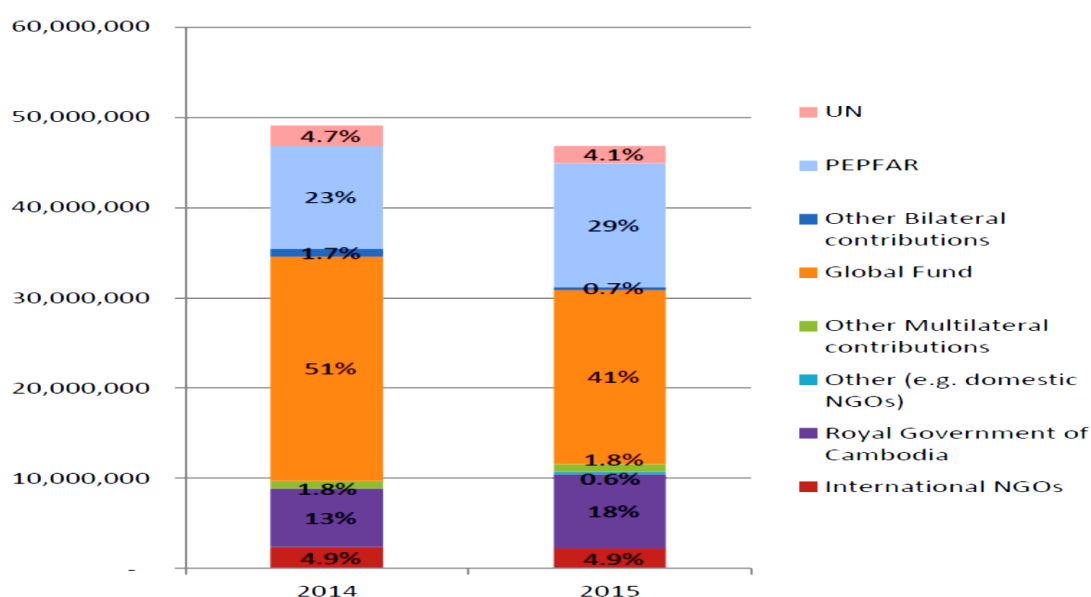
External funding for the response has been declining since 2010. Although cost efficiencies and a more strategic use of available resources have contributed to a reduction in AIDS expenditure, as a newly designated lower middle income country, Cambodia will come under increasing pressure to assume a greater share of the financial burden of the HIV response from domestic budgets, as other LMICs in the region are doing: Vietnam now funds more than 60 percent of its ARVs; Myanmar tripled its contribution for ARVs from 2014-2017; the Philippines doubled its HIV funding from 2015 to 2016. For 2018 to 2020, the Global Fund has substantially reduced its allocation to USD 13.8 million a year (from USD 15.7 million in 2017), which could be further cut by 25 percent if Cambodia fails to fulfill a co-financing requirement of USD 27 million over the three years. For the same period, USAID is not allocating any funding for service delivery (UNAIDS, 2017).

Without a firm Government commitment to a rapid and sustained scale-up of funding for HIV, including for antiretroviral drugs (ARVs), the country faces a substantial investment gap that could:

- Prevent Cambodia from reaching the 95-95-95 targets and the virtual elimination of new infections by 2025;
- Jeopardize the gains already made and put the lives of thousands of people living with HIV at risk.

Beyond 2020, external funding will likely decline further. A progressive increase in the Government's HIV budget would ensure that essential HIV services were covered, and support an easier transition to full domestic funding of the response. With frontloaded investment in scaled-up prevention and treatment coverage, resource needs for the response will decline over the next decade (ibid.).

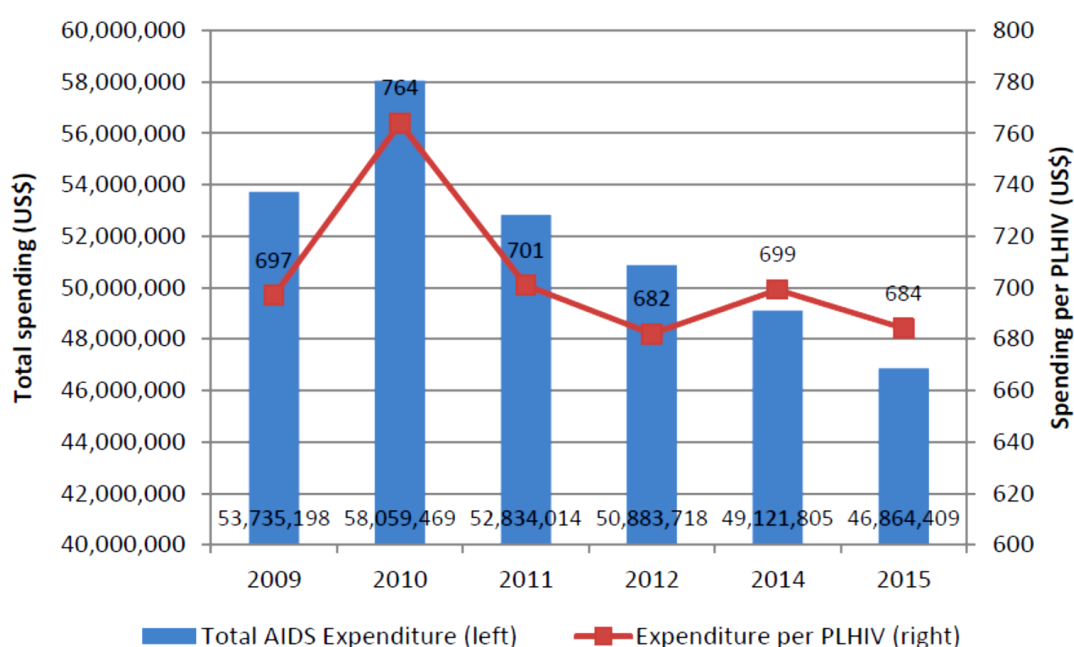
Figure 5.4: Breakdown of 2014 and 2015 Spending of Financing Sources



Source: Cambodia's Fifth National AIDS Spending Assessment (NASA), 2014-15.

Total reported HIV/AIDS spending in Cambodia peaked at USD 58.1 million in 2010. Total spending has trended down since then, decreasing by 11 percent between 2009 and 2015. This represents a compounded annual reduction rate of 2.3 percent. Per capita spending has broadly followed the trend in total spending, except in 2014. Spending per PLHIV in 2015 is approximately the same as in 2012. However, this was achieved with significantly less spending because of the fall in the number of people living with HIV/AIDS. There have been significant changes from year to year since 2009, notably the 10 percent increase in 2010, the 8 percent decrease in 2011 and the 3 percent increase in 2014.

Figure 5.5: Total Spending and Spending per PLHIV, 2009-2015 (excluding 2013)



Source: Cambodia's Fifth National AIDS Spending Assessment (NASA), 2014-15.

People living with HIV/AIDS (PLHIV), men who have sex with men (MSM), people who use drug (PWUD), female entertainment worker (FEW), transgender (TG) were the beneficiary population as the intended or targeted recipients of spending and the study focused on. The beneficiary population for training provided to health care workers for prevention of mother-to-child transmission (PMTCT) services were classified as children born/ to be born of women living with HIV (WLHIV), and not the health care workers who received the training.

The vast majority of AIDS spending is for PLHIV, with 69 percent of total spending targeted to this group in 2015. This is largely driven by care and treatment spending, which is targeted almost solely (99 percent) to this group. Spending for key populations (IDUs, MSM, EWs) maintained its level of approximately USD seven million in 2014 and 2015, or 15 percent of total spending. Spending for children born or to be born of women living with HIV increased by 61 percent in 2015 to USD 1.9 million, largely driven by spending on prevention of mother-to-child transmission (PMTCT) activities. Specific accessible populations (including the police, military, and students) were the targeted beneficiaries of one percent of spending in 2015 and the general population three percent. This allocation of spending by beneficiary group reflects the targeted nature of Cambodia's spending for AIDS to groups who are most at risk.

The NASA team agreed that care and treatment spending could be classified to PLHIV where disaggregated data were not available, because they are the most

common beneficiary of these services. Just under seventy percent of prevention spending was for key populations including 16 percent for PLHIV and 52 percent for other key populations. Approximately equal proportions of prevention spending are spent on prevention activities for vulnerable populations and the general population (14 percent of prevention spending each).

In response to HIV/AIDS in 2018, Battambang province received USD707,257 from the government and relevant organizations, including global fund, Centers for Disease Control (US-CDC), and AIDS Healthcare Foundation (AHF); Phnom Penh city received USD4,700 from global fund; Siem Reap province received USD 102,000 from the government and relevant organizations, including global fund, US-CDC, and AIDS Healthcare Foundation; and Banteay Meanchey province received USD 17,000 from US-CDC and CRS.

5. 3. Major Institutes Working on HIV/AIDS in Cambodia

5. 3. 1. National AIDS Authority (NAA)

The National AIDS Authority (NAA) is a national institution created by a national law, the Law on the Prevention and the Fight to Prevent the Spread of HIV/AIDS, which was promulgated by HM the King of Cambodia, on July 29, 2002. Its organization and its functioning are regulated by "the sub-decree number 109," dated on October 23, 2006.

The NAA is a multi-sectoral body of the Royal Government of Cambodia, consisting of members from 28 ministries, one state secretariat, and the

Cambodian Red Cross at the national level, and with the 24 provinces and one Municipality at the sub-national level.

The NAA has its coordinating system and structure around the country. At the national level: the NAA; at the ministerial level: ministerial AIDS committee; at the provincial level: provincial AIDS committee; at the town-district-khan level: town-district-khan AIDS committee, and at the commune-sangkat level: commune-sangkat AIDS committee.

The NAA has a core role to lead, manage, and coordinate the control of HIV and AIDS epidemic in Cambodia to ensure that the national response to HIV and AIDS is multi-sectoral and comprehensive in respect to the Three Ones Principle (one national coordinating body, one national strategic plan, and one national monitoring and evaluation system). The National AIDS Authority is committed to reaching Three Zeros (Zero new HIV transmission; Zero discrimination and Zero AIDS related death) in order to provide safe environment for Cambodian people to live without HIV and AIDS threat. The National AIDS Authority (NAA) is to lead, manage, coordinate and facilitate the comprehensive and multi-sectoral response to HIV and AIDS in Cambodia through the Three Ones Principle (One national coordinating body, one national strategic plan and one national monitoring and evaluation system) (www.naa.org.kh, 31.01.2019).

5. 3. 2. National Centre for HIV/AIDS Dermatology and STDs (NCHADS)

The National Centre for HIV/AIDS Dermatology and STDs (NCHADS) was established in 1998 following the amalgamation of the National AIDS Programme (NAP) and the National STD and Dermatology Clinic. Since then, its primary purpose has been to respond to the HIV/AIDS epidemic through the implementation of HIV/AIDS Strategic Plans. The National Centre for HIV/AIDS, Dermatology and STD Control (NCHADS) is the focal point within the Ministry of Health with lead responsibility for recommending and implementing policies and strategies for the health sector response to HIV and AIDS as well as STDs. Through the programme management of effective health services, it works to reduce the risk of exposure to STDs and HIV, reduce the risk of transmission of STDs and HIV and provide care and support for those infected. The National Centre for HIV/AIDS, Dermatology and STD Control is an operational unit of the Ministry of Health. It provides health sector policy development for HIV/AIDS and STDs, programme management, provincial support, coordination with other partners in the health sector, guideline development for HIV/AIDS components, national health sector plan evaluation and dissemination of epidemiology, behaviour and effective STD/HIV/AIDS prevention and care information. It conforms to the coordinating strategy of the National Aids Authority (NAA) and works in partnership with other Government Ministries, Donor Bodies and Provincial Health Departments. The Centre manages the disbursement of programme and government funds according to previously approved work plans, under its Strategic Plan. Subsequently, it monitors and

reviews progress against those plans, taking action to achieve conformance where necessary. Additionally, NCHADS has responsibility for the management of the National Dermatology and STD Clinic (www.nchads.org, 31.01.2019).

5. 3. 3. Khmer HIV/AIDS NGO Alliance (KHANA)

KHANA is a linking organization of the International HIV/AIDS Alliance and the largest national NGO providing HIV prevention, care and support services at the community level in Cambodia, as well as integrated sexual and reproductive health, family planning, maternal child health, TB and livelihoods programming. KHANA has extensive experience in implementing projects funded by international donors including USAID, The Global Fund to Fight AIDS, TB and Malaria, Australian Aid, European Commission, WFP and International HIV/AIDS Alliance. KHANA currently works with 19 NGOs as implementing partners to provide vital, high-quality care and support services to over 17,000 PLHIV and over 41,000 members of key populations (i.e., entertainment workers, men who have sex with men, transgender people, people who use and who inject drugs). The KHANA's vision is to aspire to a Cambodia that supports community ownership and empowerment, where all people have equitable access to quality HIV and health services, and sustainable development opportunities. KHANA had a mission to continue to be a leader in the HIV response while addressing wider health and development needs. KHANA's programmes focus on eliminating new HIV infections, strengthening health systems, and achieving universal health coverage (UHC), building human resilience through the development of sustainable community

and organizational systems, strengthening organizational and technical capacity of civil society and promoting diversity, rights, and gender equity.

5. 3. 4. AIDS Healthcare Foundation (AHF)

In 2005, AHF Cambodia launched its first program with the Ministry of Health and gradually expanded services with other healthcare agencies. Through the different supported programs, AHF Cambodia aims to 1) improve treatment and care for HIV/AIDS patients at local hospitals, 2) promote community HIV testing and the use of condoms, 3) prevent HIV especially among key in populations. AHF Cambodia has been supporting 38 Pre-ART/ART sites in 19 provinces among a total of 66 ART sites across the country. Those 38 clinics are located in 19 provinces. These sites are providing free ARVs, OI drugs and care to patients. Transportation allowance is sometimes provided to support patients who are living with very low income. On prevention, AHF Cambodia provides free HIV testing and condoms at the clinics. AHF Cambodia aims to contribute the efforts in achieving zero new HIV infections, zero AIDS related deaths, and zero discrimination through different events and partnership programs with the government (www.aidshealth.org, 01.02.2019).

5. 3. 5. Health Action Coordinating Committee (HACC)

Health Action Coordinating Committee (HACC) is a network of 102 local and international organizations working on HIV/AIDS and related health issues in Cambodia. Due to a decline in funding from development partners, many NGOs lost substantial support and therefore had to discontinue their operations or shift to better-resourced fields. With over 20 years of experience, HACC is a

leader in networking, partnership initiation, information sharing, organizational development, and advocacy. Further, HACC successfully bridges the information gap between civil society and influential policy makers, stakeholders, and national directors. With extensive know-how in the program design and implementation of intervention strategies during the HIV and AIDS epidemic in Cambodia, the committee offers expertise in community and health strengthening programs. Further, HACC utilizes limited resources by focusing on community members and key at risk populations (KP) within targeted areas. Ultimately, HACC's extensive efforts work to strengthen both the local community and the larger health system. Designated to lead NGO coordination and networking, the Health Technical Working Group Secretariat and Health Technical Working Group of the Ministry of Health nominated HACC as an NGO representative. The Health Partner Groups of the WHO also selected the committee as an NGO leader. Within this leading role, HACC organizes and facilitates bi-monthly member conferences. HACC led and organize issue specific representation; representative voice and evidence-based advocacy at all levels through evidence generation, compilation, documentation and dissemination together with and on behalf of HIV and AIDS CSOs. HACC led and to strengthen effective communication, information sharing and networking among members; with partners and stakeholders at all levels for coordinated and effective CSO response to HIV and AIDS. HACC also address the gaps; unmet-needs; stigma; discrimination; vulnerabilities; human rights of PLHIVs, MARPs and OVC through building capacities, empowering and

technically supporting HIV and AIDS CSOs in need (www.hacccambodia.org, 01.02.2019).

5. 3. 6. Family Health International 360 (FHI360)

In Cambodia, FHI 360 focuses on the human development goals associated with the country's most-at-risk populations. The programs of FHI 360 address a spectrum of health needs, such as prevention, treatment and care related to HIV, sexually transmitted infections, substance use, tuberculosis and malaria. It has also partnership with local organizations to give Cambodian's access to family planning and reproductive health services. In addition, FHI 360's Cambodia office is part of a multi-country effort to protect biodiversity and livelihoods in aquaculture.

As the country's capacity to tackle human development challenges has grown, FHI 360 has moved increasingly toward providing technical assistance to the government and local partners, as well as conducting ground-breaking research for key affected populations. FHI's technical support includes the first-ever use of audio computer-assisted self-interviews as part of an integrated biological and behavioral surveillance study of 3,000 men at high risk of HIV infection. FHI 360's qualitative and quantitative research studies are performed in collaboration with the government and with agencies such as the United Nations Joint Programme on HIV/AIDS, as well as academic institutions such as Oxford Mahidol and the University of California, San Francisco (www.fhi360.org, 31.01.2019).

5. 3. 7. Catholic Relief Services (CRS)

Cambodia has one of the highest HIV prevalence rates in Asia. While Cambodia has made progress in reducing the spread of the disease, many challenges remain. People living with HIV/ AIDS (PLHIV) lack access to adequate health services and health care workers often lack the capacity to cater to the special needs of PLHIV. Catholic Relief Services' programs train community health volunteers to visit patients' homes to help them take their medicines correctly, learn about possible side effects of medications, and know when to seek care for other illnesses. Community support groups help people with HIV and AIDS deal with social stigma.

CRS and its partners have supported 533,160 individuals through various TB initiatives. CRS engages community volunteers to raise awareness about TB, to increase knowledge about TB signs and symptoms, and to detect and refer suspected TB cases to health centres for diagnosis and treatment. CRS and its partners also work to strengthen community-level health systems. The programs of CRS focus on helping village health workers to deliver their services more effectively; educating communities about their rights to seek health care; coordinating referral and feedback systems to ensure high-quality services; and helping create community transportation systems so that people can access health services when they need them (www.crs.org, 01.02.2019).

5. 3. 8. Cambodian People Living with HIV Network (CPN+)

The Cambodian People Living with HIV/AIDS Network (CPN+) is a national network established in July 2001 in response to Cambodia's rapidly growing

HIV epidemic. CPN+ works to strengthen the policy synergy between the HIV response at national, district, and community levels through meaningful involvement of people living with and affected by HIV and AIDS (PLHIV) in the development of policies, plans and programs for PLHIV and those at most risk of HIV. CPN+ facilitates national and sub-national coordination of the network members, and coordinates activities by its members to mitigate the impact of the HIV epidemic and improve the quality of life for PLHIV in Cambodia. Vision and mission of CPN+ are that Cambodians who are living with and are affected by HIV and AIDS continue to live positive and healthy lives and strengthening the capacity and involvement of PLHIV and empower them with collective voice to create an enabling environment to reduce stigma and discrimination towards them, to protect their rights and to sustain their well-being. CPN+ key areas are Supporting Community-Based Prevention and Care, Tracking HIV Epidemics, Support Prevention Research, Raising Awareness, and Supporting Policy Reforms. The network consists of 939 support groups of PLHIV across the country. In addition, CPN+ has established fourteen Provincial Networks of PLHIV, including 29 Friends Help Friends Centers (Mondul Mith Chouy Mith) (www.cpnplus.org.kh, 01.02.2019).

5. 3. 9. Joint United Nations Programme on HIV/AIDS (UNAIDS)

UNAIDS is leading the global effort to end AIDS as a public health threat by 2030 as part of the Sustainable Development Goals. Since the first cases of HIV were reported more than 35 years ago, 78 million people have become infected with HIV and 35 million have died from AIDS-related illnesses. Since it started

operations in 1996, UNAIDS has led and inspired global, regional, national and local leadership, innovation and partnership to ultimately consign HIV to history. UNAIDS is a problem-solver. It places people living with HIV and people affected by the virus at the decision-making table and at the center of designing, delivering and monitoring the AIDS response. It charts paths for countries and communities to get on the Fast-Track to ending AIDS and is a bold advocate for addressing the legal and policy barriers to the AIDS response. UNAIDS provides the strategic direction, advocacy, coordination and technical support needed to catalyze and connect leadership from governments, the private sector and communities to deliver life-saving HIV services. Without UNAIDS, there would be no strategic vision for the AIDS response (www.unaids.org, 11.02.2019).

UNAIDS generates strategic information and analysis that increases the understanding of the state of the AIDS epidemic and progress made at the local, national, regional and global levels. It leads the world's most extensive data collection on HIV epidemiology, programme coverage and finance and publishes the most authoritative and up-to-date information on the HIV epidemic vital for an effective AIDS response. UNAIDS produces data for impact no major report, speech or policy initiative on HIV has been launched or made without referring to data collected and released by UNAIDS. UNAIDS is a model for United Nations reform and is the only cosponsored Joint Programme in the United Nations system. It draws on the experience and expertise of 11 United Nations System Cosponsors and is the only United Nations entity with civil society represented on its governing body. UNAIDS has helped to position,

shape and scale up the response to HIV like no other organization, encouraging dialogue and bringing in communities that have been left out of decision-making. Without UNAIDS, the human rights of people living with HIV would have been held back and the voice of civil society would be heard far less often. UNAIDS has transformed policy. UNAIDS has shaped public policy on HIV at the global, regional and national levels. It has mobilized investment for sound national policy using evidence, experience and political advocacy, built health and community systems, established legal frameworks and shaped public opinion towards creating healthy and resilient societies (ibid).

5. 3. 10. United States Agency for International Development (USAID)

USAID has contributed to help to strengthen national policies and systems, expand community outreach, and improve access to quality services. It also assisted in the expansion of the Health Equity Fund (HEF) a health insurance framework for the poor to all health facilities nationwide. This has allowed more than three million poor Cambodians to access health services free of charge. As the Royal Government of Cambodia takes on greater governance and financial responsibility for the HEF, USAID is providing technical assistance and capacity building to enable the government to take over monitoring and certifying HEF payments. Underpinning all this work is USAID support to strengthen the public-sector health system, including information and logistics, and to help achieve Universal Health Coverage (UHC) for Cambodia. It also supports the development of a system to strengthen health care regulation, in order to ensure a minimum standard of quality of care, with particular attention

to the private sector. In connection with this, the government of Cambodia has created a professional council system and a legal framework to regulate health care providers. A significant and core area of investment for USAID is in health financing to help the Royal Government of Cambodia invest more domestic resources in quality health and social health protection programs, address critical issues and increase the sustainability and efficiency of health expenditures. A significant advance toward Universal Health Coverage came in 2017, when the Royal Government of Cambodia established the National Social Protection Policy Framework to harmonize and strengthen the existing array of social protection programs. USAID provides technical support to help put this policy framework into action, by sharing global best practices and lessons learned, supporting governance arrangements and building capacity of government officials from the multiple ministries engaged in the effort.

USAID is also supporting Cambodia to reach its ambitious goals of eliminating HIV and malaria by 2025. USAID's programs have helped reduce HIV prevalence from 1.7 percent in 1998 to 0.6 percent in 2015 by improving the quality of HIV services, developing innovative ways of finding the last cases and improving the cost effectiveness of the HIV response. As of June 2017, with USAID and PEPFAR technical assistance, over 58,000 people or about 80 percent of people living with HIV are receiving lifesaving treatment (www.usaid.gov/cambodia, 21.06.2019).

5. 3. 11. President Emergency Plan for AIDS Relief (PEPFAR)

The goal of the PEPFAR program in Cambodia is to provide targeted technical assistance (TA) in achieving the 90-90-90 goals (90 percent of all people living with HIV will know their HIV status, 90 percent of all people with diagnosed HIV infection will receive sustained antiretroviral therapy, and 90 percent of all people receiving antiretroviral therapy will have viral suppression) by 2020 within priority provinces to help Cambodia become the first AIDS Free Generation low-income country. At the same time, PEPFAR is working to ensure the long-term sustainability of the Cambodian HIV response. For the past decade, the response has been largely funded by external donors, primarily the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and PEPFAR. In recent years, donor funds have declined and are expected to continue to decline in the future. PEPFAR accounts for approximately 20 percent to 30 percent of funding for the HIV response, GFATM accounts for approximately 45 percent to 55 percent of the response and the government accounts for the remainder. The domestic spending has remained level for the past decade. In order to ensure continued success, Cambodia must focus its response and increase domestic resource allocation. In order to ensure programmatic alignment with the global PEPFAR pivot, PEPFAR Cambodia is making a number of strategic shifts over the next 12 months to 18 months as we focus on priority areas for highest impact and reduce funding in areas of lower priority. PEPFAR will no longer provide the majority of funding for home and community-based care and support interventions as this will be transitioned to national and GFATM funding. PEPFAR will also no longer support social marketing of condoms as

this role is being filled by a combination of private industry and national efforts. PEPFAR support for a broad-based blood safety program is being phased out as the national program gathers strength. These reductions will make room for additional work by PEPFAR needed to achieve the long-term sustainability of the HIV response as well as support related to the recent injection safety outbreak. These efficiencies should allow PEPFAR to scale down while continuing to make a strong impact. In the Cambodia country operational plan 2015 implementation period, the PEPFAR program intends to further strengthen Cambodia in achieving a sustainable AIDS-free generation. This includes:

- Supporting the national government to appropriately lead, manage, implement and oversee the national program;
- Sustaining prevention efforts with key populations (KPs), while also looking towards new approaches to ensure the long-term strength of KPs prevention efforts as donor funding declines; Defining a solution to the long-term affordability of Cambodia's HIV response and advocating for increased government commitment of resources;
- Addressing emerging risks such as unsafe medical injection practices;
- Strengthening key information systems needed to assure transparency, accountability and to better use data to find remaining HIV cases; and
- Piloting new and innovative prevention, care and treatment approaches designed to support the achievement of 90-90-90 in priority provinces,

improve Cambodia's long-term sustainable response to the epidemic and the achievement of zero new infections.

Against the backdrop of falling HIV budgets, a persistent concentration of HIV in high-risk groups, competing health and development priorities, and new evidence-based interventions for HIV prevention, the Cambodian government and its development partners must adapt to a changing resource and epidemiological context in order to further Cambodia's status as a leader in the global fight against HIV and ensure that it successfully achieves an AIDS-free generation. PEPFAR remains the leading bilateral partner in supporting Cambodia in this effort (PEPFAR, 2015).

5. 3. 12. Country Coordinating Committee (CCC)

In 1991 the Paris Conference on Cambodia adopted agreements aimed at achieving an internationally guaranteed comprehensive settlement that would restore peace to Cambodia. These agreements included an undertaking by Cambodia to maintain, preserve, and defend its sovereignty, independence territorial integrity and inviolability, neutrality and national unity.

In light of those sovereign rights, Cambodia also acknowledges the requirements and recommendations of the Global Fund to fight AIDS, Tuberculosis and Malaria the Global Fund, concerning eligibility and accountability for grants from the Global Fund. The Country Coordinating Committee (CCC) is established as a mechanism of the national stakeholder constituencies for the three diseases in Cambodia, and in response to the requirements and recommendations of the Global Fund. As a national

stakeholder coordination mechanism, the CCC has no legal foundation. The CCC will seek to establish legal authority for its activities by the end of 2012 in order to enhance eligibility for a wider range of funding sources.

The CCC is a multi-sectoral national platform to coordinate and facilitate Global Fund activities to fight against HIV/AIDS, tuberculosis (TB) and malaria in Cambodia. The CCC is comprised of representatives of stakeholder constituencies represented at the national level. The mandate of the CCC is to mobilize a national multi-sectoral response to develop and submit proposals to the Global Fund to scale up the fight against HIV/AIDS, TB and malaria, and to oversee and support the implementation of activities that are initiated by the CCC in line with national program priorities and supported by the Global Fund. The purpose of the CCC is to enhance performance of the Global Fund activities in Cambodia in partnership with stakeholder constituencies, to promote efficient program implementation, to avoid duplication by harmonizing Global Fund activities with other programs throughout Cambodia, and to strengthen coordination among stakeholder constituencies (Country Coordinating Committee, 2010).

Thus, there is no doubt that the sources, amounts and the utilization of HIV/AIDS financing in Cambodia are needed to respond to HIV/AIDS work. Cambodia is one of seven countries globally to have achieved the 90-90-90 targets in 2017. This achievement has been heavily based on external source of funding that accounts for more than 80 percent of total spending since 2009. So far, despite the increase in domestic funding, Cambodia's AIDS response

remains reliant on external sources of funding. External funding for the response has been declining since 2010, and the strong support from the Royal Government of Cambodia needs to continue steadily for sustainable response to this challenge. Furthermore, many government bodies, donors, and civil society organizations are working on prevention, treatment, care and support for the program of HIV/AIDS in collaboration and coordination ways.



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CHAPTER VI

DATA PRESENTATION AND ANALYSIS

The data analysis of the research study is made in the present chapter. The chapter is divided into eight sections. These include profile of the respondents, HIV/AIDS transmission information, HIV and AIDS treatment, care and support, impact of HIV/AIDS, and adequacy of HIV/AIDS finance to meet the needs of the beneficiaries.

6. 1. Profile of the Respondents

6. 1. 1. Gender

The information on sex distribution shows that it is approximately equal, the male sample is 50 percent and the female sample is also 50 percent. Looking at Phnom Penh has equally sex distribution, the male sample is 50 percent and the female sample is also 50 percent. Siem Reap province shows the little bit difference between sample of male 52.56 percent and female 47.44 percent. Difference from Siem Reap, Banteay Meanchey has sample of 45.61 percent male and 54.39 percent of female (Table 6.1 and Figure 6.1).

The representatives of the HIV/AIDS affected respondents in Battambang and Banteay Meanchey are quite similar. Around 51.28 percent of males were from Battambang province while 48.72 percent of them were females. In addition, 45.28 percent of them participants were males from Banteay Meanchey and 54.39 percent of them were females. The distribution of HIV/AIDS affected respondents were in normal selection (Table 6.1).

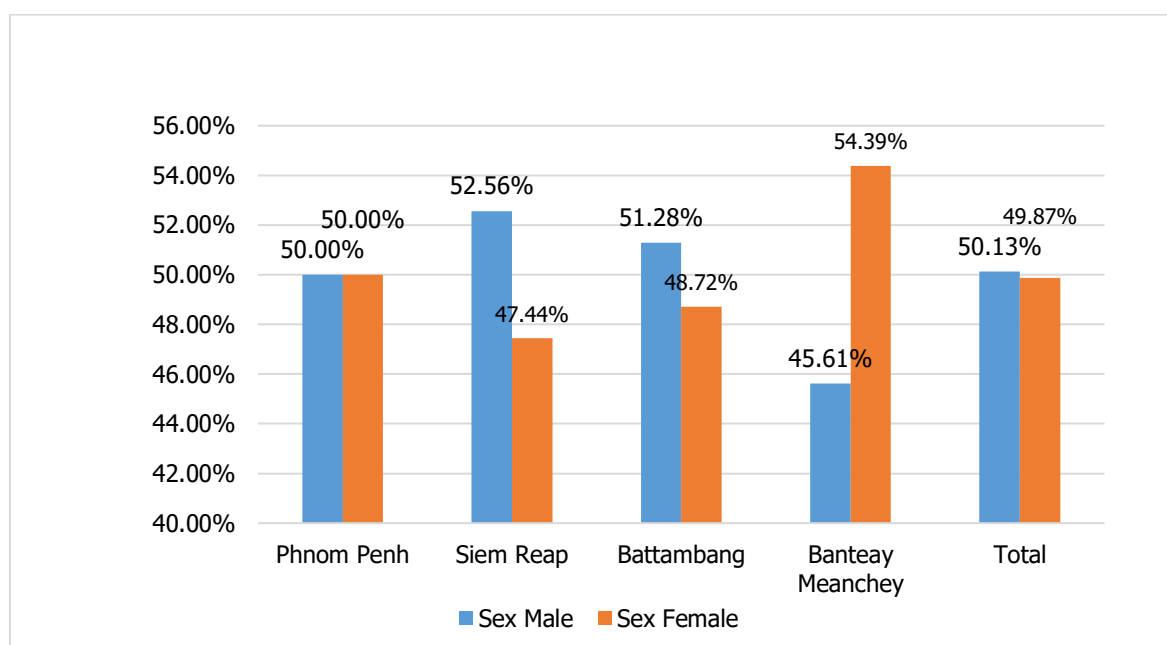
Table 6.1: Distribution of HIV/AIDS Infected Respondents as per Gender

Sex	Male	Female	Total
Phnom Penh	91	91	182
	50.00%	50.00%	100.00%
Siem Reap	41	37	78
	52.56%	47.44%	100.00%
Battambang	40	38	78
	51.28%	48.72%	100.00%
Banteay Meanchey	26	31	57
	45.61%	54.39%	100.00%
Total	198	197	395
	50.13%	49.87%	100.00%

Source: Own Survey.

Furthermore, Figure 6.1 illustrates the normal distribution of the participants who participated and recruited in the study. Overall, around 50.13 percent of the participant were male and 49.87 percent were females. This also demonstrated the participants in different locations of study. Around 50 percent of males and females were representing from Phnom Penh and 52.56 percent of males were representing those who live in Siem Reap and 47.44 percent of females were representing those who living in Siem Reap province. In addition, 51.28 percent of males were representing the PLHIV who live in Battambang and 48.72 percent of females were representing those who living in Battambang province. 45.61 percent of males were representing the PLHIV who live in Banteay Meanchey and 54.39 percent of females were representing those who living in Banteay Meanchey province.

Figure 6.1: Percentage of HIV/AIDS Infected Respondents as per Gender



6. 1. 2. Age-Group

The age distribution among the respondents were classified into 3 different categories. Category 1 is between 20 and 39 years old, category 2 is between 40 years old and 59 years old and category 3 is 60 years old and above. The majority of the participants in this study were at the age between 20 years and 59 years old. Looking at the information across the three age groups among the respondent, the 20-39 years old group is 26.08 percent, the 40-59 years old group is 65.06 percent and the over 60 years old group is 8.86 percent. Looking at Phnom Penh, the 20-39 years old group is 24.73 percent, the 40-59 years old group is 66.67 percent and the over 60 years old group is 11.54 percent. Difference from Phnom Penh, Banteay Meanchey shows the 20-39 years old group is 33.33 percent, the 40-59 years old group is 63.74

percent and the over 60 years old group is 0.00 percent percent (Table 6.2 and Figure 6.2).

Table 6.2: Distribution of HIV/AIDS Infected Respondents as per Age-Groups

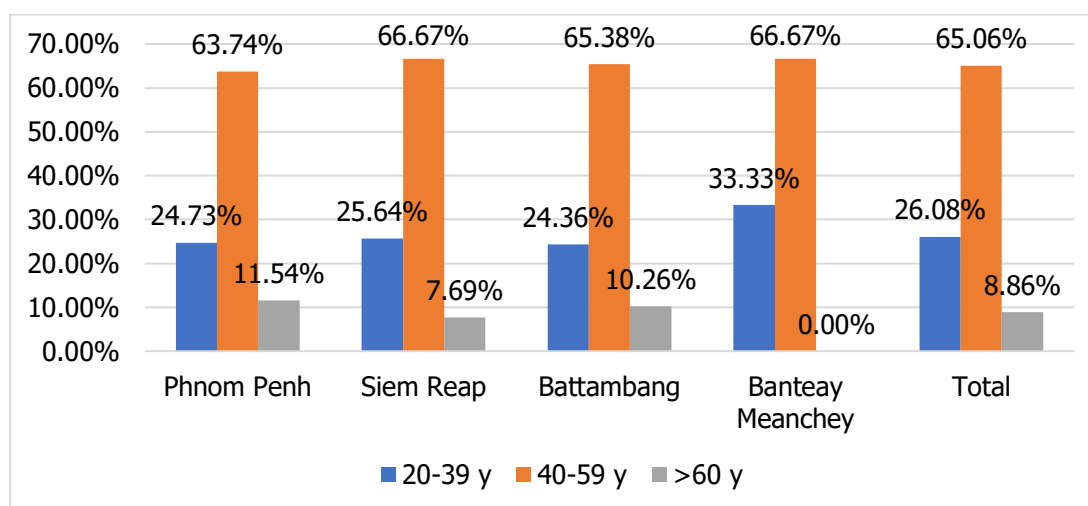
Age group	20-39 Y	40-59 Y	>60 Y	Total
Phnom Penh	45	116	21	182
%	24.73%	63.74%	11.54%	100.00%
Siem Reap	20	52	6	78
%	25.64%	66.67%	7.69%	100.00%
Battambang	19	51	8	78
%	24.36%	65.38%	10.26%	100.00%
Banteay Meanchey	19	38	0	57
%	33.33%	66.67%	0.00%	100.00%
Total	103	257	35	395
%	26.08%	65.06%	8.86%	100.0%

Source: Own Survey

The figure 6.2 demonstrates the distribution age in the four selected provinces, such as Phnom Penh, Siem Reap, Battambang and Banteay Meanchey. Around 24.73 percent of the HIV/AIDS affected respondents who living in Phnom Penh were between 20 years old and 39 years, 63.74 percent of them were between 40 years old and 59 years, and 11.54 percent of them were 60 years old or above. Around 25.64 percent of the HIV/AIDS affected respondents who living in Battambang were between 20 years old and 39 years, 66.67 percent of them were between 40 years old and 59 years, and 7.69 percent of them were 60 years old or above. About 33.33 percent of the HIV/AIDS affected respondents who living in Battambang were between 20 years old and 39 years, 65.38

percent of them were between 40 years old and 59 years, and 10.26 percent of them were 60 years old or above. Approximately, 33.33 percent of the HIV/AIDS affected respondents who living in Banteay Meanchey were between 20 years old and 39 years, 66.67 percent of them were between 40 years old and 59 years, and none of them were 60 years old or above.

Figure 6.2: Percentage of HIV/AIDS Infected Respondents as per Age-Groups



6. 1. 3. Marital Status

The distribution of marital status of HIV/AIDS affected respondents were classified into 4 categories, namely single, married, separated and divorced. Single means the people who has never been getting married. Married means the people who got married or lived as family without married. Separated referred to an individual who were living far away from wife or husband. They divorced illegally, such as negotiation or travelling out of wife or husband. Divorced means the people who got married and separated from wife or husband legally.

The information on marital status among the respondents show that, the single respondent is 11.90 percent, the married respondent is 57.97 percent, the separated respondents is 18.73 percent and the divorced respondents is 11.39 percent. In Phnom Penh, the single respondent is 13.19 percent, the married respondent is 54.95 percent, the separated respondent is 18.13 percent and the divorced respondents is 13.74 percent. In the similar city as Phnom Penh, the social status of the PLHIV who live in Siem Reap province were quite the similar. Around 14.10 percent of them were single, 54.95 percent of them were married, 18.13 percent of them were separated and 11.54 percent of them were divorced (Table 6.3).

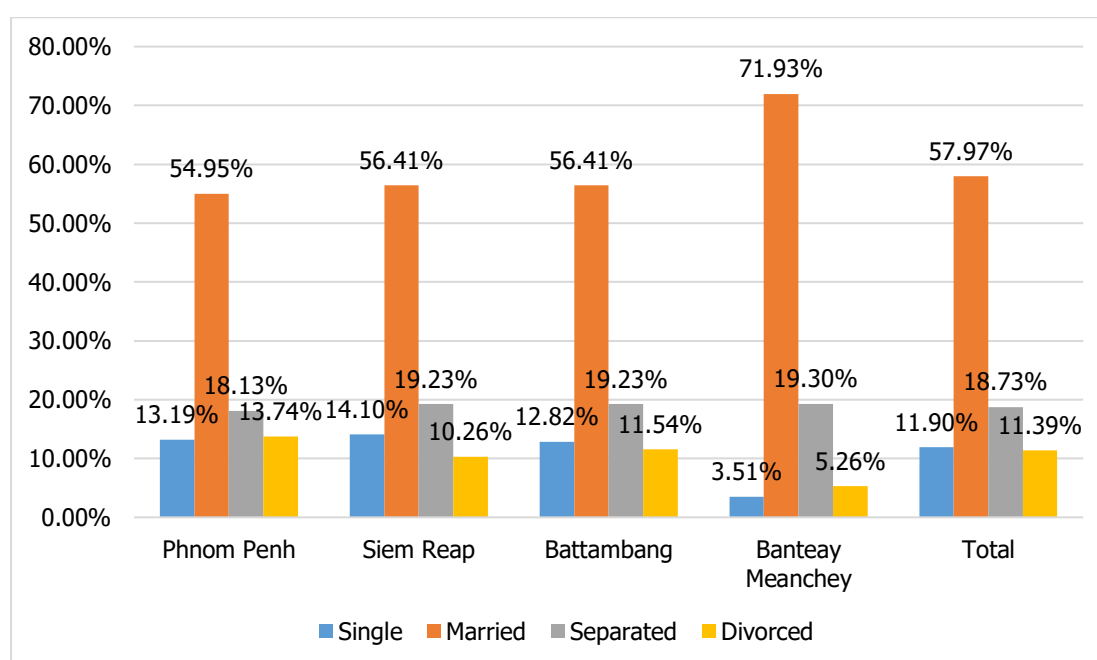
Table 6.3: Distribution of HIV/AIDS Infected Respondents as per their Marital Status

	Marital Status				Total
	Single	Married	Separated	Divorced	
Phnom Penh	24	100	33	25	182
	13.19%	54.95%	18.13%	13.74%	100.00%
Siem Reap	11	44	15	8	78
	14.10%	56.41%	19.23%	10.26%	100.00%
Battambang	10	44	15	9	78
	12.82%	56.41%	19.23%	11.54%	100.00%
Banteay Meanchey	2	41	11	3	57
	3.51%	71.93%	19.30%	5.26%	100.00%
Total	47	229	74	45	395
	11.90%	57.97%	18.73%	11.39%	100.00%

Source: Own Survey.

At the provincial level, Battambang, the single respondent is 12.82 percent, the married respondent is 56.41 percent, the separated respondents are 19.23 percent and the divorced respondents is 11.54 percent. The social status of the PLHIV who live in Banteay Meanchey province were slightly different from Battambang province. Around 3.51 percent of them were single, 71.93 percent of them were married, 19.30 percent of them were separated and 5.26 percent of them were divorced (Figure 6.3).

Figure 6.3: Percentage of HIV/AIDS Infected Respondents as per their Marital Status



6. 1. 4. Educational Qualifications

The educational qualifications were grouped into 5 different categories, such as no school, primary level, junior secondary level, senior secondary level and university level. No school referred to those who could not read and write. Primary level referred to those who finish class 6 or below. They were able to be to read and write. Junior secondary level referred to those who pursued

education between class 7 and class 9. Senior secondary level referred to those who pursue the education between class 10 and class 12. The university level referred to those who at least graduated from class 12, so-called "Bacc II".

The education background of the respondents shows that 7.34 percent of respondents never go to school, 39.24 percent are at primary level, 33.42 percent are at junior secondary level, 16.71 percent are at senior secondary level, and 3.29 percent are at university level.

At the city levels, like Phnom Penh and Siem Reap, around 7.14 percent of people who lived in Phnom Penh had no school at all whilst 37.91 percent and 34.62 percent of them attended primary level and junior secondary level respectively. About 15.93 percent of them had senior secondary school and 4.4 percent of them got the university level. Whereas, those who lived in Siem Reap, around 11.54 percent of them did not have school. The rest of them attended school at least primary school. Around 37.18 percent of them were in primary level and 30.77 percent of them were in junior secondary school. Interestingly, around 19.23 percent of them were in senior secondary school whilst very few (1.28 percent) of them were in university level.

At the provincial level, such as Battambang and Banteay Meanchey, people who got HIV/AIDS affected seems to have the same educational level as people who live in Phnom Penh and Siem Reap. Around 6.41 percent of people who lived in Battambang had no school; whilst 37.18 percent of them were in primary level. Approximately 34.62 percent of them were in junior secondary level, 16.67 percent of them were in senior secondary level and 3.85 percent of them

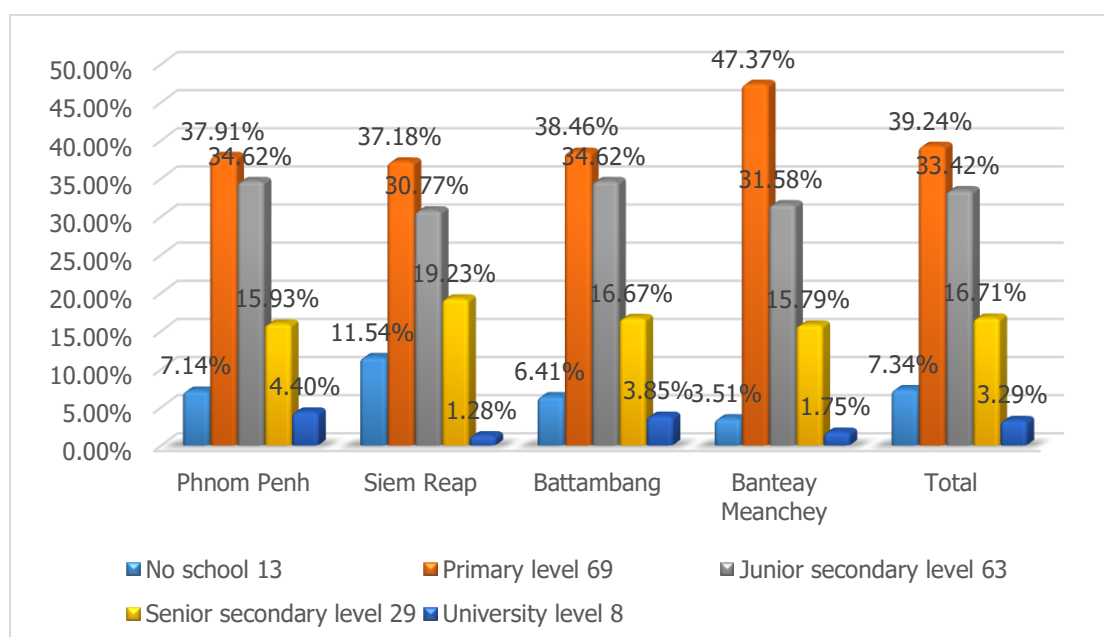
were in university level. Whereas Banteay Meanchey, round 3.51 percent of people who lived in Banteay Meanchey had no school; whilst 47.37 percent of them were in primary level. Approximately 31.58 percent of them were in junior secondary level, 15.79 percent of them were in senior secondary level and 1.75 percent of them were in university level (Table 6.4 and Figure 6.4).

Table 6.4: Distribution of HIV/AIDS Infected Respondents as per their Educational Qualifications

	No school	Primary level	Junior secondary level	Senior secondary level	University level	Total
Phnom Penh	13	69	63	29	8	182
	7.14%	37.91%	34.62%	15.93%	4.40%	100.00%
Siem Reap	9	29	24	15	1	78
	11.54%	37.18%	30.77%	19.23%	1.28%	100.00%
Battambang	5	30	27	13	3	78
	6.41%	38.46%	34.62%	16.67%	3.85%	100.00%
Banteay Meanchey	2	27	18	9	1	57
	3.51%	47.37%	31.58%	15.79%	1.75%	100.00%
Total	29	155	132	66	13	395
	7.34%	39.24%	33.42%	16.71%	3.29%	100.00%

Source: Own Survey.

Figure 6.4: Percentage of HIV/AIDS Infected Respondents as per their Educational Qualifications



6. 1. 5. Occupations

The occupations are one of the socio-economic statuses included this study. There are eight categories for this variable. The categories are housewife, farmer, worker, uniformed services, private staff, seller, jobless and other.

The occupation of the respondents shows that 8.61 percent of the respondents are housewives, 16.96 percent are farmers, 26.33 percent are workers, 21.33 percent are uniformed services, 1.27 percent are private staff, 13.42 percent are sellers, 7.09 percent are jobless, and 5.32 percent are others (Table 6.5 and Figure 6.5).

Studying the occupation of the people who are HIV/AIDS affected living in Phnom Penh, around 9.34 percent of them were housewife and 18.13 percent were farmers. Around 23.63 percent of them were workers, 18.13 percent of

them were uniformed services, and 1.1 percent of them were private staff. The rest of them were sellers, jobless and unclassified groups.

Learning the occupation of the people who are HIV/AIDS affected living in Siem Reap, around 7.69 percent of them were housewife and 16.67 percent were farmers. Around 26.92 percent of them were workers, 23.08 percent of them were uniformed services, and 2.56 percent of them were private staff. The rest of them were sellers, jobless and unclassified groups.

Learning the occupation of the people who are HIV/AIDS affected living in Battambang, around 7.69 percent of them were housewife and 7.95 percent were farmers. Around 25.64 percent of them were workers, 19.23 percent of them were uniformed services, and 1.28 percent of them were private staff. The rest of them were sellers, jobless and unclassified groups.

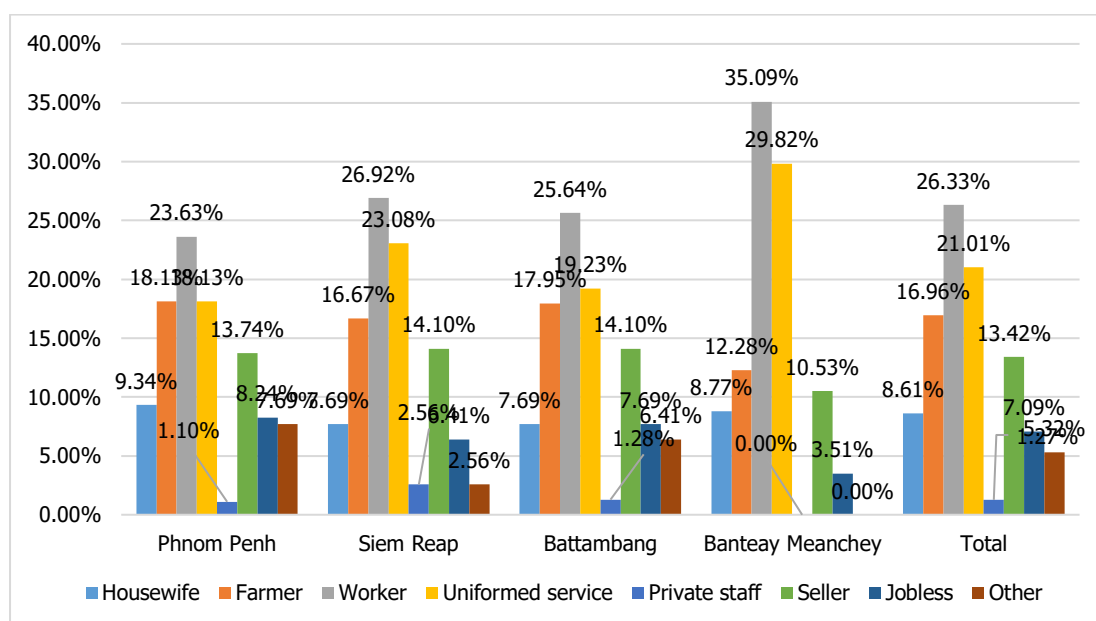
Learning the occupation of the people who are HIV/AIDS affected living in Banteay Meanchey, around 8.77 percent of them were housewife and 12.28 percent were farmers. Around 35.09 percent of them were workers, 29.82 percent of them were uniformed services, and none of them were private staff. The rest of them were sellers, jobless and unclassified groups (Table 6.5 and Figure 6.5).

Table 6.5: Distribution of HIV/AIDS Infected Respondents as per their Occupations (Jobs)

	Job								Total
	Housewife	Farmer	Worker	Uniformed service	Private staff	Seller	Jobless	Other	
Phnom Penh	17	33	43	33	2	25	15	14	182
	9.34%	18.13%	23.63%	18.13%	1.10%	13.74%	8.24%	7.69%	100.00%
Siem Reap	6	13	21	18	2	11	5	2	78
	7.69%	16.67%	26.92%	23.08%	2.56%	14.10%	6.41%	2.56%	100.00%
Battambang	6	14	20	15	1	11	6	5	78
	7.69%	17.95%	25.64%	19.23%	1.28%	14.10%	7.69%	6.41%	100.00%
Banteay Meanchey	5	7	20	17	0	6	2	0	57
	8.77%	12.28%	35.09%	29.82%	0.00%	10.53%	3.51%	0.00%	100.00%
Total	34	67	104	83	5	53	28	21	395
	8.61%	16.96%	26.33%	21.01%	1.27%	13.42%	7.09%	5.32%	100.00%

Source: Own Survey.

Figure 6.5: Percentage of HIV/AIDS Infected Respondents as per their Occupations (Jobs)



6. 1. 6. Number of Children

The number of children of the respondents shows that 19.75 percent had one child, 26.06 percent had two children, 22.28 percent had three children, 11.90 percent had four children, 1.75 percent had five children, and 10.53 percent had any child. These figures show that majority of respondents (more than 68 percent) had children between 2-3, while those who had 4-6 kids and no kids were almost distributed equally about 16 percent (Table 6.6 and Figure 6.6).

The study was participated by different group of people who have different children in the family. The number of children was ranging from zero to six. Around 20.33 percent of HIV/AIDS affected respondents who live in Phnom Penh had one child in the family, 24.18 percent of them had 2 children, 23.08 percent of them had 3 children and 16.48 percent of them had no child. The rest of them has between 4 to 6 children in the family. Around 21.79 percent

of HIV/AIDS affected respondents who live in Siem Reap had one child in the family, 23.8 percent of them had 2 children, 19.23 percent of them had 3 children and 17.95 percent of them had no child. The rest of them has between 4 to 6 children in the family.

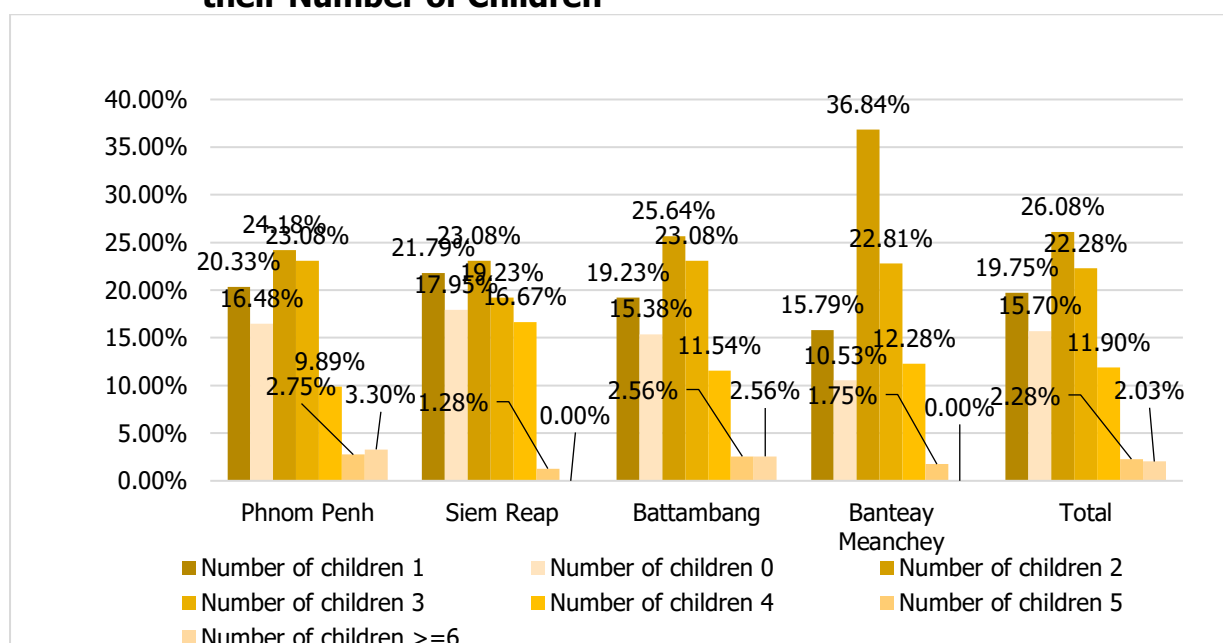
Interestingly, about 19.23 percent of HIV/AIDS affected respondents who live in Battambang had one child in the family, 25.64 percent of them had 2 children, 23.08 percent of them had 3 children and 15.38 percent of them had no child. The rest of them has between 4 to 6 children in the family. About 19.23 percent of HIV/AIDS affected respondents who live in Banteay Meanchey had one child in the family, 36.84 percent of them had 2 children, 22.81 percent of them had 3 children and 10.53 percent of them had no child. The rest of them has between 4 to 6 children in the family.

Table 6.6: Distribution of HIV/AIDS Infected Respondents as per their Number of Children

	Number of children							Total
	1	2	3	4	5	6	Don't have	
Phnom Penh	37	44	42	18	5	6	30	182
	20.33%	24.18%	23.08%	9.89%	2.75%	3.30%	16.48%	100.00%
Siem Reap	17	18	15	13	1	0	14	78
	21.79%	23.08%	19.23%	16.67%	1.28%	0.00%	17.95%	100.00%
Battambang	15	20	18	9	2	2	12	78
	19.23%	25.64%	23.08%	11.54%	2.56%	2.56%	15.38%	100.00%
Banteay Meanchey	9	21	13	7	1	0	6	57
	15.79%	36.84%	22.81%	12.28%	1.75%	0.00%	10.53%	100.00%
Total	78	103	88	47	9	8	62	395
	19.75%	26.08%	22.28%	11.90%	2.28%	2.03%	15.70%	100.00%

Source: Own Survey.

Figure 6.6: Percentage of HIV/AIDS Infected Respondents as per their Number of Children



6. 1. 7. Daily Family Income

The daily average income was classified into four different groups. Group 1 is people who got a daily income less 5 USD and group 2 are those who got a daily income between 5 and 10 USD. The group 3 and 4 are for those who earned a daily income from 10 USD to 15 USD and from 15 USD or above respectively. The average income of the family per day of the majority of the respondent was less than USD 10 per day. Very few had income more than USD 15 per day which consisted not more than 12 percent of the respondent. These figures show that infected respondents had low ability to make a good living (Table 6.7 and Figure 6.7).

Around 38.46 percent of the HIV/AIDS people who live in Phnom Penh earned less than 5 US dollar daily. Around 34.62 percent of them earned between 4 USD and 10 USD and 10.44 percent earned between 10 USD and 15 USD and 1.65 percent of them earned more than 15 USD daily. About 34.62 percent of

people who live in Siem Reap could earn less than 5 USD whilst 38.46 percent and 43.86 percent of people who live in Battambang and Banteay Meanchey earned less than 5 USD respectively (Table 6.7).

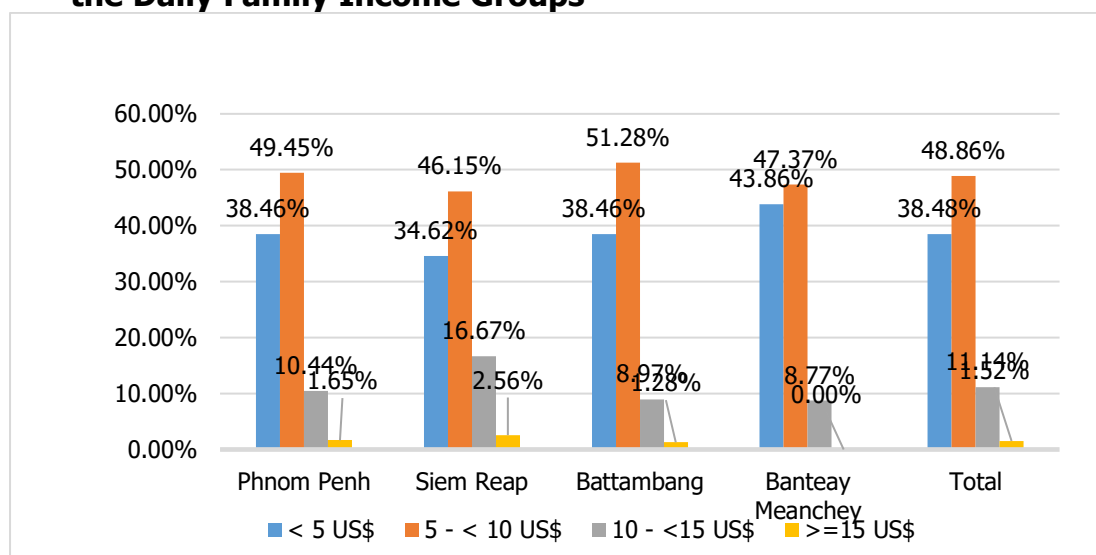
Table 6.7: Distribution of HIV/AIDS Infected Respondents as per the Daily Family Income Groups

	The average income of your family per day (US dollar)				
	< 5	5 - < 10	10 - <15	>=15	Total
Phnom Penh	70	90	19	3	182
	38.46%	49.45%	10.44%	1.65%	100.00%
Siem Reap	27	36	13	2	78
	34.62%	46.15%	16.67%	2.56%	100.00%
Battambang	30	40	7	1	78
	38.46%	51.28%	8.97%	1.28%	100.00%
Banteay Meanchey	25	27	5	0	57
	43.86%	47.37%	8.77%	0.00%	100.00%
Total	152	193	44	6	395
	38.48%	48.86%	11.14%	1.52%	100.00%

Source: Own Survey.

Almost half of PLHIV who live in Siem Reap, Battambang and Banteay Meanchey earned between 5 USD and 10 USD daily. Around 16.6% of PLHIV who live in Siem Reap earned daily between 10 USD and 15 USD and 2.56 percent of them earned more than 15 USD or over. Approximately 8.97 percent of people who live in Battambang earned from 10 USD to 15 USD and 1.28 percent of them earned more than 15 USD daily. Nearly 9 percent of PLHIV who live in Banteay Meanchey earned between 10 USD and 15 USD daily and none of them earned more than 15 USD every day (Figure 6.7).

Figure 6.7: Percentage of HIV/AIDS Infected Respondents as per the Daily Family Income Groups



6. 2. HIV/AIDS Transmission Information

6. 2. 1. Mode of Transmission

More than 75 percent of PLHIV respondent, the mode of transmissions was through sexual transmission. This shows that there is less use of protection. Therefore, the use of condom needs to be increased in the population. We can also see in the table 6.10 that the condom use in partner is around only 50 percent. This increases the risk of transmission.

The mode of HIV transmission was asked the respondents whether they understood how HIV transmitted from one person to another. The main mode transmissions were sexual intercourse, blood transfusion, mother to child and other which related to "don't know". Nearly 74 percent of people who in Phnom Penh reported that the mode of transmission were through sexual intercourse while 82.05 percent, 74.36 percent and 75.44 percent of the respondent who

live in Siem Reap, Battambang and Banteay Meanchey were reported that HIV transmitted through sexual intercourse.

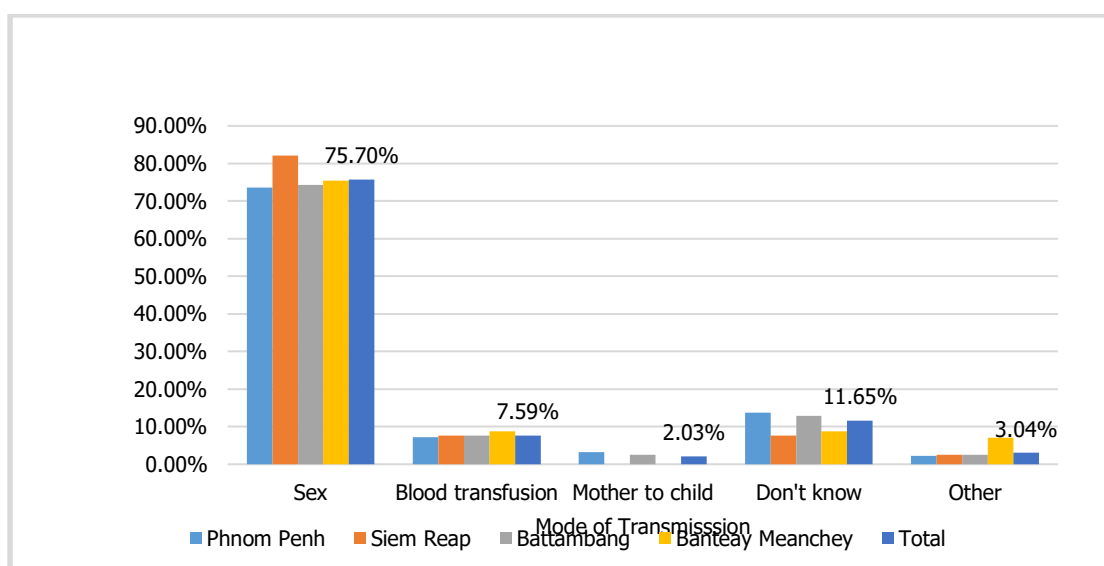
Table 6.8: Distribution of HIV/AIDS Infected Respondents as per the Mode of Transmission of Disease

Variable		Targeted Areas								Total	
		Phnom Penh		Siem Reap		Battambang		Banteay Meanchey			
Mode of HIV transmission	Sex	134	73.63%	64	82.05%	58	74.36%	43	75.44%	299	75.70%
	Blood transfusion	13	7.14%	6	7.69%	6	7.69%	5	8.77%	30	7.59%
	Mother to child	6	3.30%	0	0.00%	2	2.56%	0	0.00%	8	2.03%
	Don't know	25	13.74%	6	7.69%	10	12.82%	5	8.77%	46	11.65%
	Other	4	2.20%	2	2.56%	2	2.56%	4	7.02%	12	3.04%
	Total	182	100.00 %	78	100.00 %	78	100.00 %	57	100.00 %	395	100.00 %

Source: Own Survey

Interestingly, around 10 percent of the people who resident in Phnom Penh were reported that HIV transmission through blood transfusion and mother to child. Around 7.69 percent of the people who live in Siem Reap were reported that HIV transmission through blood transfusion and mother to child. More than 10 percent of the people who live in Battambang were reported that HIV transmission through blood transfusion and mother to child. Nearly 9 percent of the people who live in Banteay Meanchey were reported that HIV transmission through blood transfusion and mother to child (Table 6.9 and Figure 6.9).

Figure 6.8: Percentage of HIV/AIDS Infected Respondents as per the Mode of Transmission of Disease



6. 2. 2. HIV/AIDS Positivity of Partner

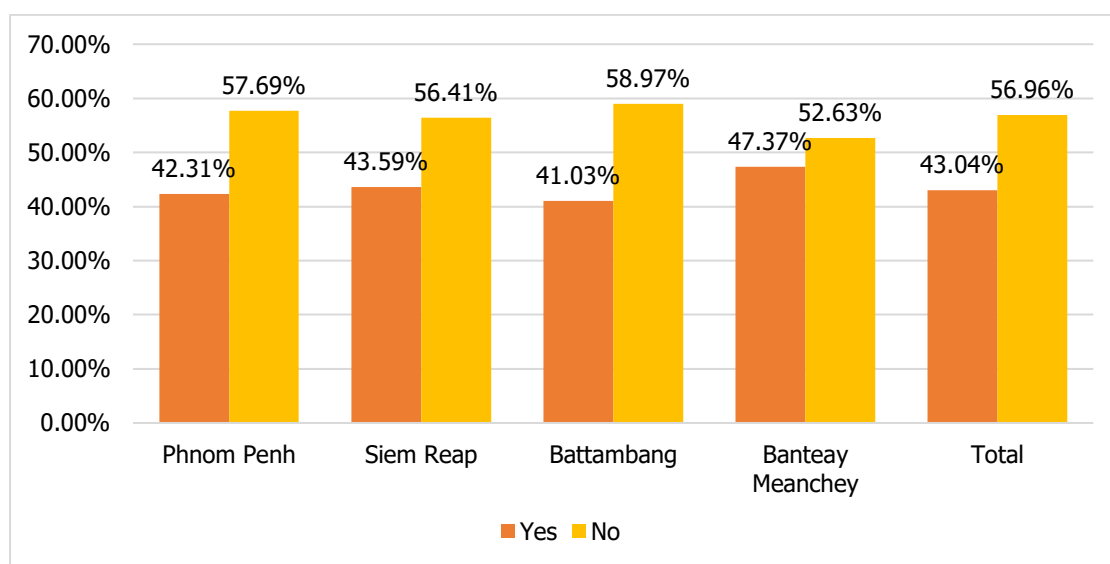
The of the respondents shows that 43.04 percent of their couple had HIV positive. These figures show that married respondents need to use condoms and take ARV consistently to avoid infecting their partners or their children (Table 6.9 and Figure 6.9).

Table 6.9: Distribution of HIV/AIDS Infected Respondents as per HIV/AIDS Positivity of Married Partner

	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	Total
Yes	77	34	32	27	170
	42.31%	43.59%	41.03%	47.37%	43.04%
No	105	44	46	30	225
	57.69%	56.41%	58.97%	52.63%	56.96%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.9: Percentage of HIV/AIDS Infected Respondents as per HIV/AIDS Positivity of Married Partner



6. 2. 3. Use of Condom by Partner

Overall, the condom use data is as low as than 50 percent (48.86 percent).

Even though, majority of the respondents are couple who live with each other,

Table 6.10: Distribution of HIV/AIDS Infected Respondents as per Use of Condom by Married Partner

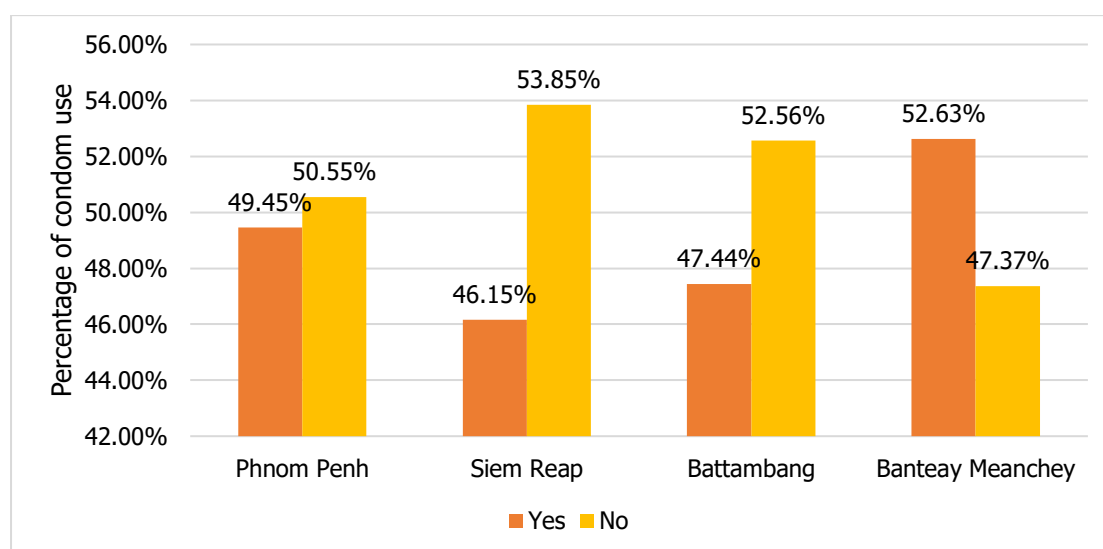
		Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	Total
Condom Use	Yes	90	36	37	30	193
		49.45%	46.15%	47.44%	52.63%	48.86%
	No	92	42	41	27	202
		50.55%	53.85%	52.56%	47.37%	51.14%
	Total	182	78	78	57	395
		100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

it is recommended that the couple be educated to consistently used condom to avoid the transmission (Table 6.10 and Figure 6.10).

The condom used among the married partners was asked to the respondents. Less than half of the respondents in Phnom Penh, Siem Reap, Battambang and were reported that they used condom. Around 52.63% of those who live in Banteay Meanchey reported they used condom (Figure 6.10).

Figure 6.10 : Percentage of HIV/AIDS Infected Respondents as per Use of Condom by Married Partner



6. 3. HIV/AIDS Treatment, Care and Support

6. 3. 1. ART Treatment

The ARV treatment show that 100 percent of infected respondents had access to ART services. These figures indicate that Cambodia has progressed on track to reach 95-95-95 by 2025 (Table 6.11 and Figure 6.11).

The coherence HIV treatment was the most important for the program implementers. None of the respondent reported that they missed the treatment. 100 percent of PLHIV who live in Phnom Penh, Siem Reap,

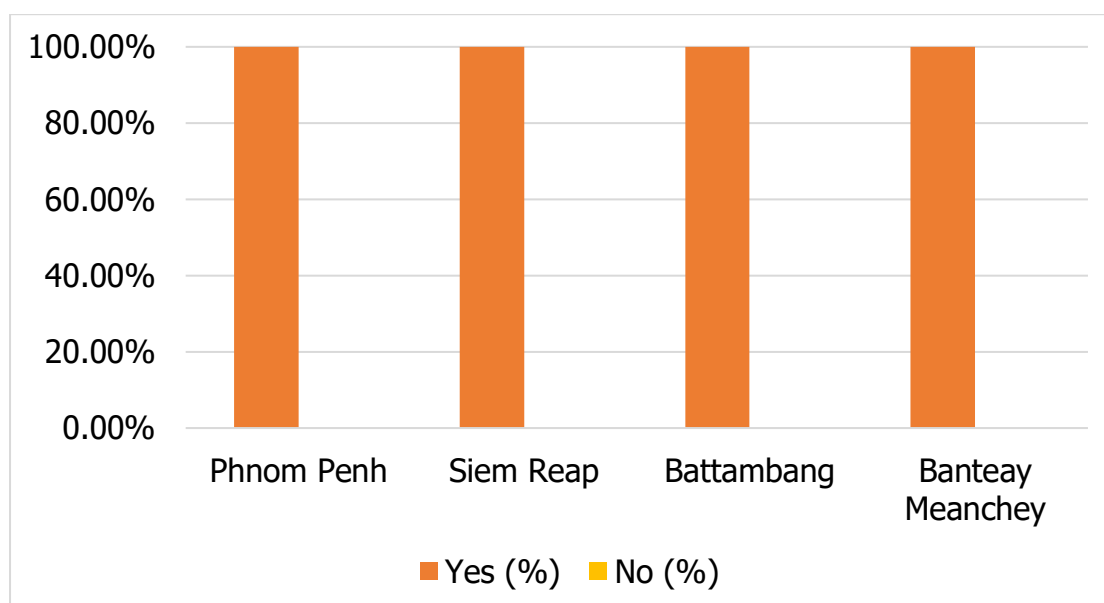
Battambang and Banteay Meanchey reported that they always received ART treatment on time.

Table 6.11: Distribution of HIV/AIDS Infected Respondents as per their ART Treatment

	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
Yes	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%
No	0	0	0	0	0
	0.00%	0.00%	0.00%	0.00%	0.00%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.11: Percentage of HIV/AIDS Infected Respondents as per their ART Treatment



6. 3. 2. Married Partner Under ART Treatment

The result show that 36.46 percent of infected respondent's partner were also under ARV. These figures indicate that Cambodia infected respondents need to use condoms and ARV consistently to avoid transmission to their partners.

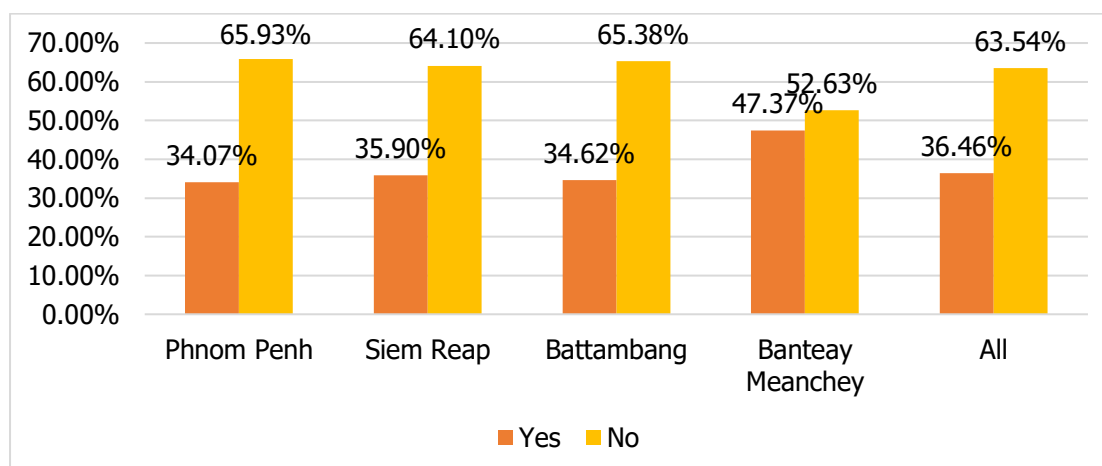
Around 34 percent of the respondents who lived in Phnom Penh reported that their partners under HIV treatment whilst 65.93 percent of them said their partners did not. Over 33 percent of the respondents who lived in Siem Reap reported that their partners under HIV treatment whilst 64.1 percent of them said their partners did not. More than 34 percent of the respondents who lived in Battambang reported that their partners under HIV treatment whilst 65.38 percent of them said their partners did not. Around 47.37 percent of the respondents who lived in Banteay Meanchey reported that their partners under HIV treatment whilst 52.63 percent of them said their partners did not (Table 6.12 and Figure 6.12).

Table 6.12: Distribution of HIV/AIDS Infected Respondents as per their Married Partner Under Treatment

Partner Under ART		Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
	Yes	62	28	27	27	144
		34.07%	35.90%	34.62%	47.37%	36.46%
	No	120	50	51	30	251
		65.93%	64.10%	65.38%	52.63%	63.54%
	Total	182	78	78	57	395
	Total	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.12: Percentage of HIV/AIDS Infected Respondents as per their Married Partner Under ART Treatment



6. 3. 3. Place of ART Service

The study focused on the places where PLHIV access to ART services across the nation. Around 98.9 percent of HIV/AIDS affected respondents who lived in Phnom Penh reported that the places of ART services were at public service while the rest said that the place for ART service was at civil society and private services. Around 98.72 percent of HIV/AIDS affected respondents who lived in Siem Reap reported that the places of ART services were at public service while the rest said that the place for ART service was at civil society and private services. Around 98.72 percent of HIV/AIDS affected respondents who lived in Battambang reported that the places of ART services were at public service while the rest said that the place for ART service was at civil society and private services. Around 98.25 percent of HIV/AIDS affected respondents who lived in Banteay Meanchey reported that the places of ART services were at public service while the rest said that the place for ART service was at civil society and private services. It is seen that the majority of the PLHIV around 98.73 percent access public services for ART services, and the rest which is a very small portion (1.27 percent) were able to use the Civil Society organization ART clinic

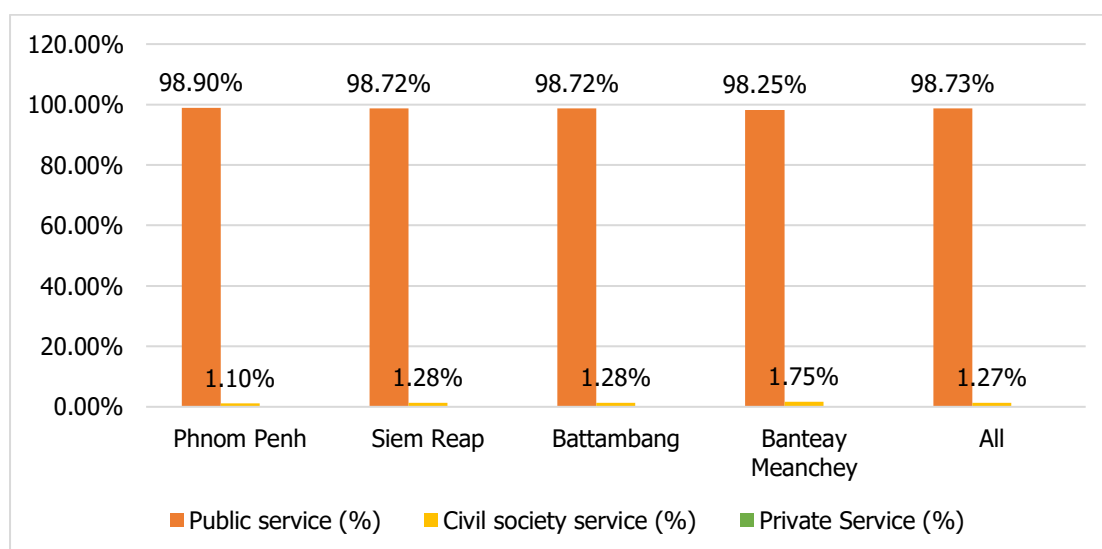
which was normally a free-of-charge service. This decreases the out-of-pocket expenditure on the PLHIV (Table 6.13 and Figure 6.13).

Table 6.13: Distribution of HIV/AIDS Infected Respondents as per the Place of ART Service

Place of ART Service	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
Public service	180	77	77	56	390
	98.90%	98.72%	98.72%	98.25%	98.73%
Civil society service	2	1	1	1	5
	1.10%	1.28%	1.28%	1.75%	1.27%
Private Service	0	0	0	0	0
	0.00%	0.00%	0.00%	0.00%	0.00%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.13 : Percentage of HIV/AIDS Infected Respondents as per the Place of ART Service



6. 3. 4. Following the Prescriptions

It can be seen that 98.99 percent of infected respondents follow the prescription regularly and continuously. These figures indicate that infected respondents had good health.

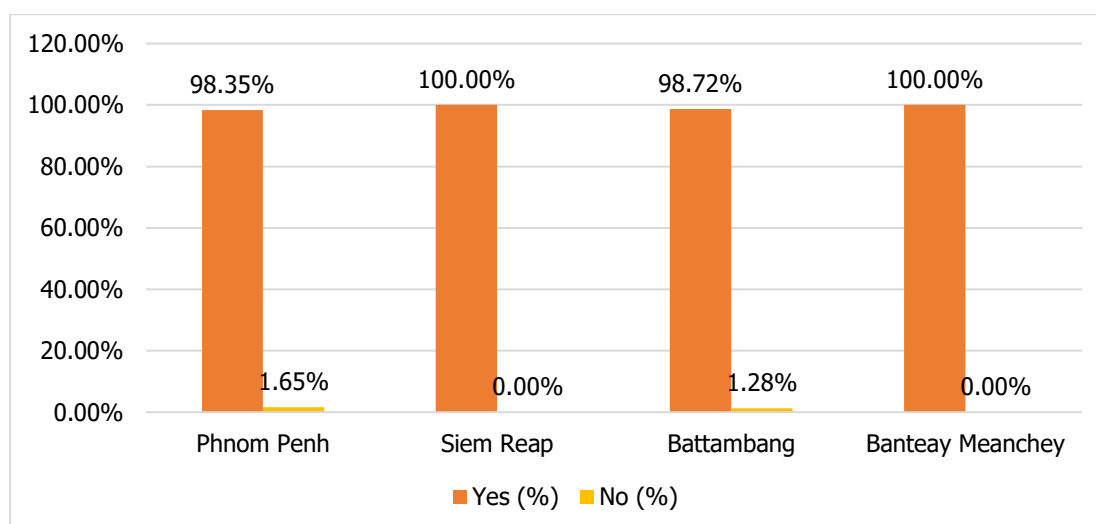
The study focused on whether the HIV/AIDS infected respondents follow the prescription or not. Around 98.35 percent of HIV/AIDS affected respondents who lived in Phnom Penh reported that they followed the prescription. 100 percent of HIV/AIDS affected respondents who lived in Siem Reap reported that they followed the prescription. Around 98.72 percent of HIV/AIDS affected respondents who lived in Battambang reported that they followed the prescription. 100 percent of HIV/AIDS affected respondents who lived in Banteay Meanchey reported that they followed the prescription (Table 6.14 and Figure 6.14).

Table 6.14: Distribution of HIV/AIDS Infected Respondents as per their Views on Following Prescriptions Regularly and Continuously

Following the Prescription	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
Yes	179	78	77	57	391
	98.35%	100.00%	98.72%	100.00%	98.99%
No	3	0	1	0	4
	1.65%	0.00%	1.28%	0.00%	1.01%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.14: Percentage of HIV/AIDS Infected Respondents as per their Views on Following Prescriptions Regularly and Continuously



6. 3. 5. Receiving HIV/AIDS Prevention Education

It is seen that 94.18 percent of infected respondents received HIV and AIDS education. These figures indicate that infected respondents had good information and can share to others.

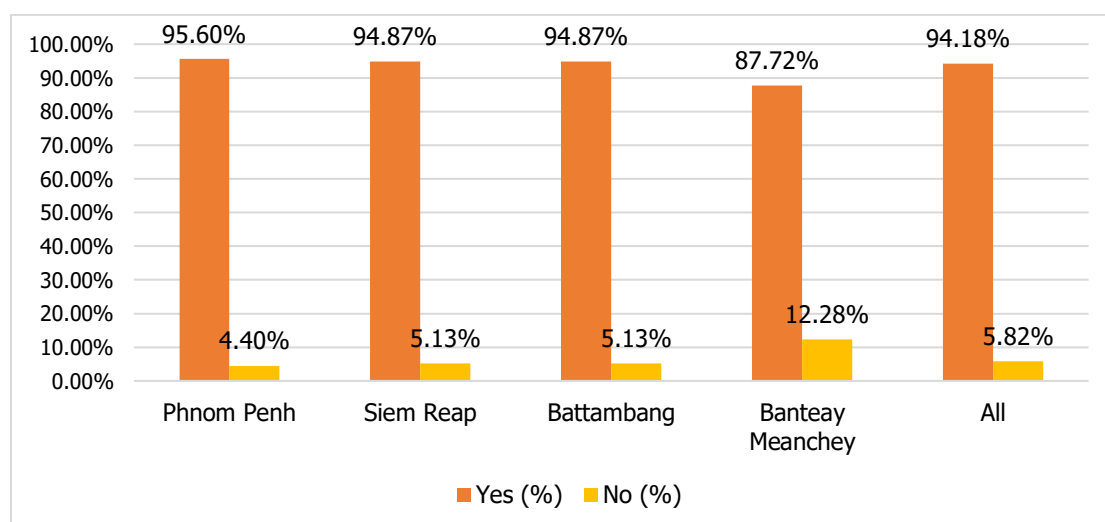
The knowledge gained for preventing HIV transmission was one of the key leading factors to reduce the transmission. Around 95.6 percent of the respondents in Phnom Penh reported that they received HIV prevention education; while the rest did not. Around 94.87 percent of the respondents in Siem Reap reported that they received HIV prevention education; while the rest did not. Around 94.87 percent of the respondents in Battambang reported that they received HIV prevention education; while the rest did not. Around 87.72 percent of the respondents in Banteay Meanchey reported that they received HIV prevention education; while the rest did not (Table 6.15 and Figure 6.15).

Table 6.15: Distribution of HIV/AIDS Infected Respondents as per their Views on Receiving HIV/AIDS Prevention Education

Receive HIV/AIDS prevention education	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
Yes	174	74	74	50	372
Yes (%)	95.60%	94.87%	94.87%	87.72%	94.18%
No	8	4	4	7	23
No (%)	4.40%	5.13%	5.13%	12.28%	5.82%
Total	182	78	78	57	395
Total (%)	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.15 : Percentage of HIV/AIDS Infected Respondents as per their Views on Receiving HIV/AIDS Education



6. 3. 6. Social Support Received

The views on social support were intended to understand among the HIV/AIDS patient whether they were able to receive job, housing, education for their

children and other types. About 21 percent of PLHIV received support in their descent job, while only one percent was provided housing support. The job support figure seems consistent with the respondent occupation data, particularly in uniformed service (21 percent) in table 6.5 above. However, the child education support was significantly high (almost 77 percent) (Table 6.16 and Figure 6.16).

About 19.23 percent of the HIV/AIDS affected respondents who lived in Phnom Penh received jobs to work in the community and around 1.65 percent of them reported that they were supported housing. Interestingly, 77.47 percent of them reported that they were able to send their kids to schools and 1.65 percent of them were able to receive other social support. In addition, around 19.23 percent of the HIV/AIDS affected respondents who lived in Siem Reap received jobs to work in the community and around none of them reported that they were supported housing. Fascinatingly, 80.77 percent of them reported that they were able to send their kids to schools and none of them were able to received other social support (Table 6.16)

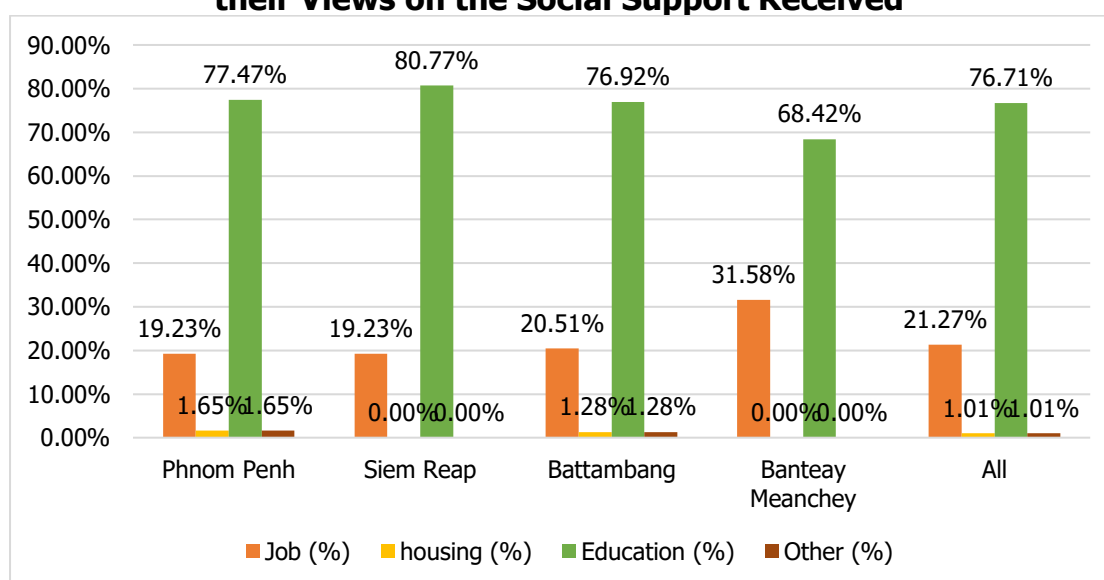
Approximately 20.51 percent of the HIV/AIDS affected respondents who lived in Battambang received jobs to work in the community and around 1.28 percent of them reported that they were supported housing. Remarkably, 76.92 percent of them reported that they were able to send their kids to schools and 1.28 percent of them were able to receive other social support. Nearby 32 percent of the HIV/AIDS affected respondents who lived in Banteay Meanchey received jobs to work in the community and around none of them reported that they were supported housing.

Table 6.16: Distribution of HIV/AIDS Infected Respondents as per their Views on the Social Support Received

Type of Social Support Received	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
Job	35	15	16	18	84
	19.23 %	19.23%	20.51%	31.58%	21.27%
Housing	3	0	1	0	4
	1.65%	0.00%	1.28%	0.00%	1.01%
Education	141	63	60	39	303
	77.47%	80.77%	76.92%	68.42%	76.71%
Other	3	0	1	0	4
	1.65%	0.00%	1.28%	0.00%	1.01%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.16: Percentage of HIV/AIDS Infected Respondents as per their Views on the Social Support Received



Impressively, 68.42 percent of them reported that they were able to send their

kids to schools and none of them were able to receive other social support (Figure 6.16)

6. 4. Impact of HIV/AIDS

6. 4. 1. Current Health Status

The general health status was about how the PLHIV felt after they were infected by HIV and living with AIDS. The main general health condition was normal, feeling weaker than before, and weak. On average, about 81 percent of PLHIV felt normal while more than 17 percent of them said that they were weak than before. These figures indicate that PLHIV did not only need ARV but they also need food and other supplementary (Table 6.17 and Figure 6.17).

Surprisingly, around 78.57 percent of the HIV/AIDS affected respondents who lived in Phnom Penh were reported that they felt normal and nearly 20.33 percent of them reported that they felt weaker than before. Furthermore, 1.1 percent of them felt weak after having infected HIV and living with AIDS. Amazingly, around 84.62 percent of the HIV/AIDS affected respondents who lived in Siem Reap were reported that they felt normal and nearly 14.10 percent of them reported that they felt weaker than before. Furthermore, 1.28 percent of them felt weak after having infected HIV and living with AIDS.

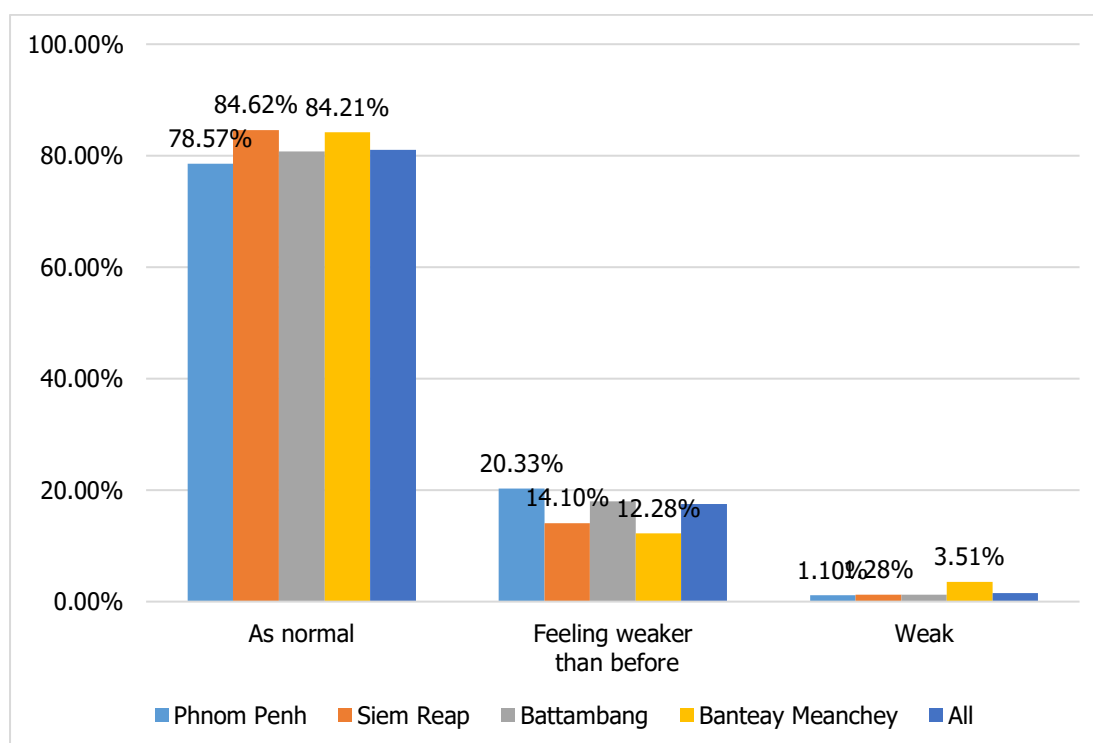
Astonishingly, around 80.77 percent of the HIV/AIDS affected respondents who lived in Battambang were reported that they felt normal and nearly 17.95 percent of them reported that they felt weaker than before. Furthermore, 1.28 percent of them felt weak after having infected HIV and living with AIDS. Astonishingly, around 84.21 percent of the HIV/AIDS affected respondents who

Table 6.17: Distribution of HIV/AIDS Infected Respondents as per their General Current Health Status

General Health Status	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
As normal	143	66	63	48	320
	78.57%	84.62%	80.77%	84.21%	81.01%
Feeling weaker than before	37	11	14	7	69
	20.33%	14.10%	17.95%	12.28%	17.47%
Weak	2	1	1	2	6
	1.10%	1.28%	1.28%	3.51%	1.52%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.17: Percentage of HIV/AIDS Infected Respondents as per their General Current Health Status



lived in Banteay Meanchey were reported that they felt normal and nearly 12.28

percent of them reported that they felt weaker than before. Furthermore, 3.51 percent of them felt weak after having infected HIV and living with AIDS.

6. 4. 2. CD4 Count Learning

The CD4 count is a test that measures how many CD4 cells infected people have in their blood. These are a type of white blood cell, called T-cells, that move throughout their body to find and destroy bacteria, viruses, and other invading germs. The test results help their doctor know how much damage has been done to their immune system and what's likely to happen next if antiretroviral

Table 6.18: Distribution of HIV/AIDS Infected Respondents as per their Views on Current Learning of CD4 Count

Learning of CD4 Count	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
Yes	149	63	63	43	318
	81.87%	80.77%	80.77%	75.44%	80.51%
No	33	15	15	14	77
	18.13%	19.23%	19.23%	24.56%	19.49%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

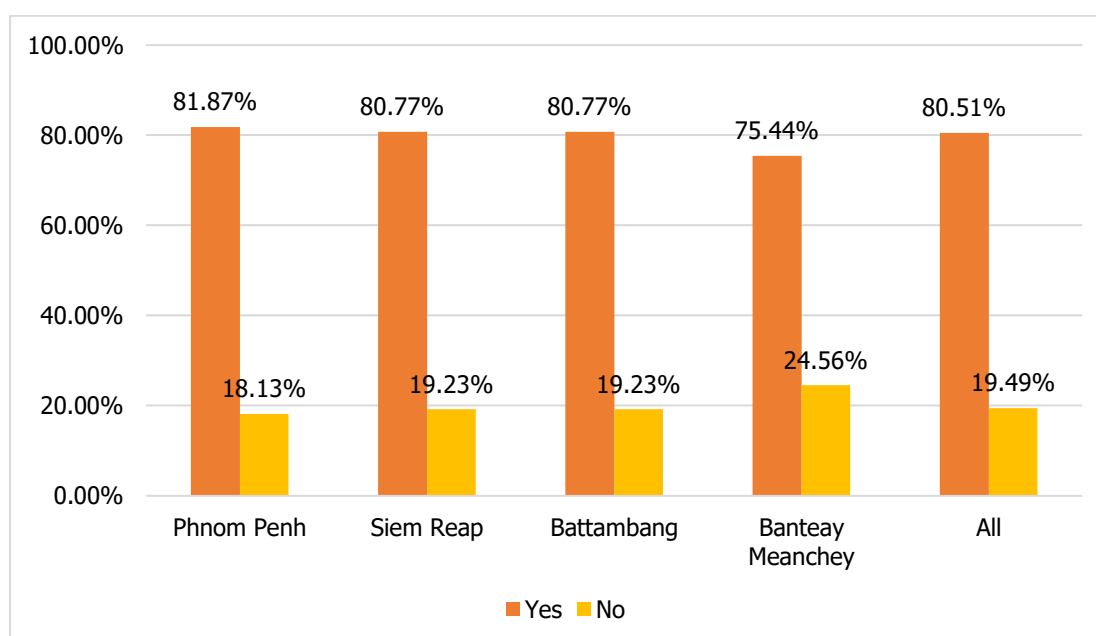
Source: Own Survey.

treatment (ART) is not initiated. The more PLHIV understand their CD4 level/status the better situation they would be committed to adhering to the ART treatment and regularly follow-up with the physicians on their CD4 testing or viral load testing. In this study, more than 80 percent learnt about their CD4

counts, while only less than 20 percent not. This would also help the program to target/focus/prioritize on those percent (Table 6.18 and Figure 6.18).

The views on the current learning of CD4 count to understand the health status while Cambodia started HIV treat all since 2017, around 81.87 percent of the HIV/AIDS affected respondents who were in Phnom Penh viewed that they got the CD4 count and 18.13 percent of them viewed that they were not performed CD4 count. Around 81.77 percent of the HIV/AIDS affected respondents who were in Siem Reap viewed that they got the CD4 count and 19.23 percent of them viewed that they were not performed CD4 count. About 80.77 percent of

Figure 6.18: Percentage of HIV/AIDS Infected Respondents as per their Views on Current Learning of CD₄ Count



the HIV/AIDS affected respondents who lived in Battambang viewed that they got the CD4 count and 19.23 percent of them viewed that they were not performed CD4 count. Around 80.51 percent of the HIV/AIDS affected respondents viewed that they got the CD4 count and 19.49 percent of them viewed that they were not performed CD4 count (Figure 6.18).

6. 4. 3. Level of CD4 Count

All persons with HIV should be started on ART regardless of whether the CD4 count is high or low. The CD4 count should increase in response to effective ART. Keeping infected respondent's CD4 count up with an effective ART can hold off symptoms and complications of HIV and help PLHIV live longer. In fact, studies have found that patients who adhere to regular treatments can achieve a life span similar to persons who have not been infected with HIV.

Persons with very low CD4 counts may need to take drugs to prevent specific opportunistic infections (OIs) in addition to taking their ART. Once the CD4 count increases in response to ART, it may be possible to stop taking these OI medications. In this study, 15.95 percent of infected respondents had CD4 counts less than 300, 32.41 percent of infected respondents had CD4 counts less than 600, 19.49 percent of infected respondents had CD4 counts less than 900, 1.27 percent of infected respondents had CD4 counts less than 1,200, and 30.89 percent of infected respondents did not know their status. These findings indicate that PLHIV need to know more about CD4 level to follow up their health status (Table 6.19 and Figure 6.19).

The view of CD4 count among the HIV/AIDS affected respondent were intended to understand whether they were well-aware their health status or not. Around 16.4 percent of the respondents who lived in Phnom Penh reported that they viewed that their CD4 count was less than 300 and 31.43 percent of them viewed that their CD4 count was between 300 and 600. Furthermore, around 21.43 percent of them viewed that their CD4 count was between 900 and 1200 while 29.12 percent of them viewed that they did not know about their CD4

Table 6.19: Distribution of HIV/AIDS Infected Respondents as per the Views on their Level of CD₄ Count

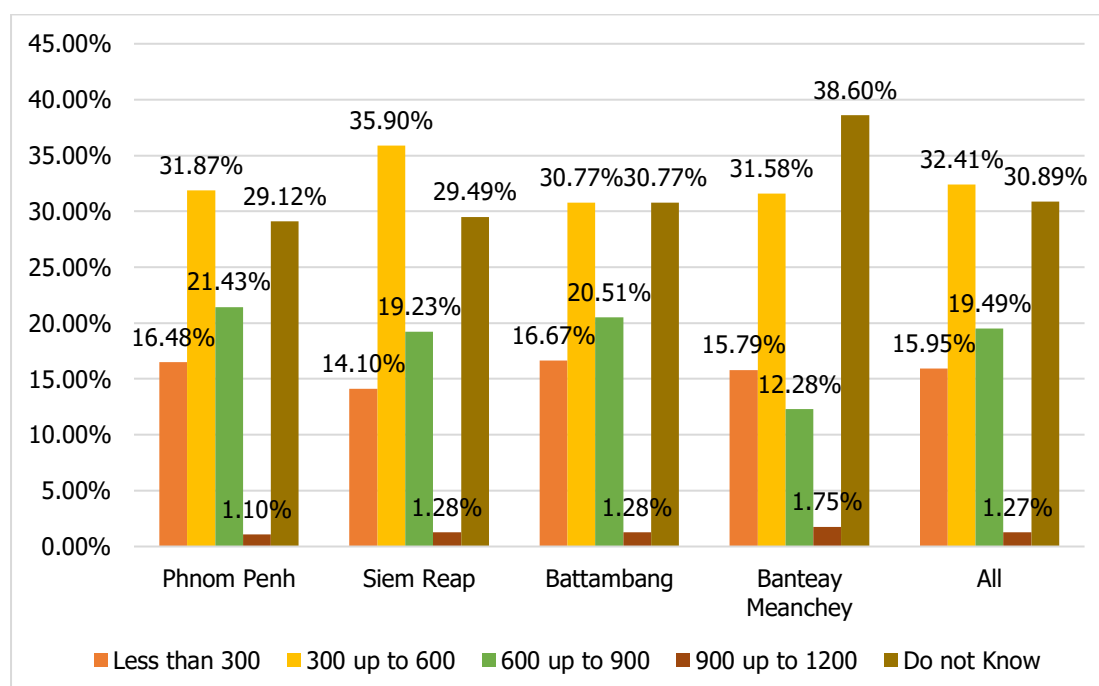
Level of CD ₄ Count	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
Less than 300	30	11	13	9	63
	16.48%	14.10%	16.67%	15.79%	15.95%
300 up to 600	58	28	24	18	128
	31.87%	35.90%	30.77%	31.58%	32.41%
600 up to 900	39	15	16	7	77
	21.43%	19.23%	20.51%	12.28%	19.49%
900 up to 1200	2	1	1	1	5
	1.10%	1.28%	1.28%	1.75%	1.27%
Do not Know	53	23	24	22	122
	29.12%	29.49%	30.77%	38.60%	30.89%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

count. Around 14.10 percent of the respondents who lived in Siem Reap reported that they viewed that their CD₄ count was less than 300 and 35.90 percent of them viewed that their CD₄ count was between 300 and 600. Furthermore, around 19.23 percent of them viewed that their CD₄ count was between 900 and 1200 while 29.49 percent of them viewed that they did not know about their CD₄ count (Table 6.19).

Around 16.67 percent of the respondents who lived in Battambang reported that they viewed that their CD4 count was less than 300 and 30.77 percent of them viewed that their CD4 count was between 300 and 600. Furthermore, around 20.51 percent of them viewed that their CD4 count was between 900 and 1200 while 1.28 percent of them viewed that they did not know about their CD4 count. Around 15.79 percent of the respondents who lived in Banteay Meanchey reported that they viewed that their CD4 count was less than 300 and 31.58 percent of them viewed that their CD4 count was between 300 and 600. Furthermore, around 12.28 percent of them viewed that their CD4 count was between 900 and 1200 while 1.75 percent of them viewed that they did not know about their CD4 count (Figure 6.19).

Figure 6.19 : Percentage of HIV/AIDS Infected Respondents as per the Views on their Level of CD₄ Count



6. 4. 4. Viral Load Learning

An HIV viral load test measures the number of HIV particles in a milliliter (ml) of blood. These particles are also known as “copies.” The test assesses the progression of HIV in the body. It’s also useful in seeing how well a person’s HIV therapy is controlling HIV in their body. A high viral load may indicate a recent HIV transmission, or HIV that’s untreated or uncontrolled. Viral loads are generally highest for a period right after contracting HIV. They decrease as the body’s immune system fights against HIV, but then increase again over time as CD4 cells die off. A viral load can include millions of copies per mL of blood, especially when the virus is first contracted. A low viral load indicates relatively few copies of HIV in the blood. If an HIV treatment plan is effective, a person will be able to maintain a lower viral load.

Table 6.20: Distribution of HIV/AIDS Infected Respondents as per their Views on Viral Load Learning

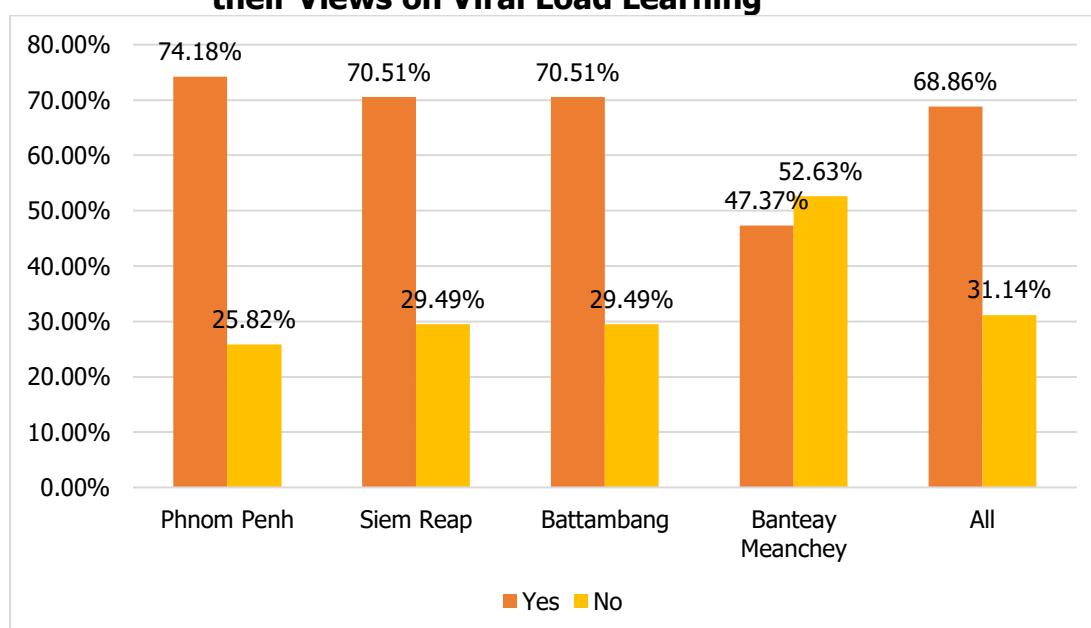
Learning of Viral Load	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
Yes	135	55	55	27	272
	74.18%	70.51%	70.51%	47.37%	68.86%
No	47	23	23	30	123
	25.82%	29.49%	29.49%	52.63%	31.14%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

For those who have been on ART more than six months, adherence to viral load testing is important. Both physicians and PLHIV have to understand the importance of the viral load testing. The figure showed that only more than two-thirds (69 percent) have learnt about their viral load (Table 6.20 and Figure 6.20).

The views on the current learning of viral load performance to understand the number of virus in the body. Around 74.18 percent of the HIV/AIDS infected respondents who were in Phnom Penh viewed that they got the viral load test and 25.82 percent of them viewed that they were not performed viral load test. Around 70.51 percent of the HIV/AIDS affected respondents who were in Siem Reap viewed that they got the viral load test and 29.49 percent of them viewed that they were not performed viral load test. Around 70.51 percent of the HIV/AIDS affected respondents who were in Battambang viewed that they got the viral load test and 29.49 percent of them viewed that they were not performed viral load test. Around 47.37 percent of the HIV/AIDS affected respondents who were in Banteay Meanchey viewed that they got the viral load test and 52.63 percent of them viewed that they were not performed viral load test. Around 68.86 percent of the HIV/AIDS affected respondents who were in All viewed that they got the viral load test and 31.14 percent of them viewed that they were not performed viral load test.

Figure 6.20: Percentage of HIV/AIDS Infected Respondents as per their Views on Viral Load Learning



Around 70.51 percent of the HIV/AIDS affected respondents who were in Battambang viewed that they got the viral load test and 29.49 percent of them

viewed that they were not performed viral load test. Around 47.37 percent of the HIV/AIDS affected respondents who were in Banteay Meanchey viewed that they got the viral load test and 52.63 percent of them viewed that they were not performed viral load test (Figure 6.20).

6. 4. 5. Level of Viral Load

The level of viral load through the result of viral load test was one of the important factors to understand the efficacy of the treatment. The figure showed that more than 31 percent of infected respondents had viral load less than 40 copies, and more than 58 percent of PLHIV did not know their status. These findings indicate that PLHIV need to know more about viral load level to follow up their health status (Table 6.21 and Figure 6.21).

The view of the level of viral load among the HIV/AIDS infected people were captured in this study, around 8.79 percent of the HIV/AIDS affected people who lived in Phnom Penh viewed that their viral load was less than 1000 copies and more than 40 percent of them viewed that they had less than 40 copies of viral load. The rest reported that they did not know. Around 3.85 percent of the HIV/AIDS affected people who lived in Siem Reap viewed that their viral load was less than 1000 copies and more than 44 percent of them viewed that they had less than 40 copies of viral load. The rest reported that they did not know (Table 6.21).

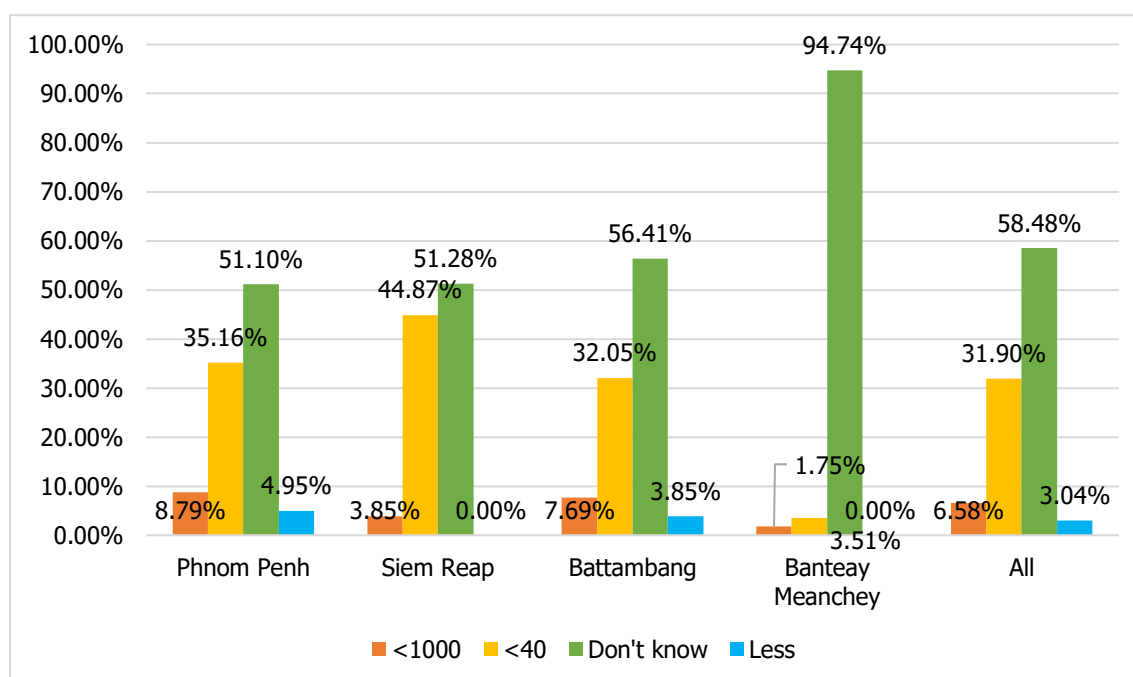
Around 7.69 percent of the HIV/AIDS affected people who lived in Battambang viewed that their viral load was less than 1000 copies and more than 35 percent of them viewed that they had less than 40 copies of viral load. The rest reported

Table 6.21: Distribution of HIV/AIDS Infected Respondents as per the Views on their Level of Viral Load

Level of Viral Load	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
<1000	16	3	6	1	26
	8.79%	3.85%	7.69%	1.75%	6.58%
<40	64	35	25	2	126
	35.16%	44.87%	32.05%	3.51%	31.90%
Don't know	93	40	44	54	231
	51.10%	51.28%	56.41%	94.74%	58.48%
Less	9	0	3	0	12
	4.95%	0.00%	3.85%	0.00%	3.04%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.21 : Percentage of HIV/AIDS Infected Respondents as per the Views on their Level of Viral Load



that they did not know. Around 1.75 percent of the HIV/AIDS affected people who lived in Banteay Meanchey viewed that their viral load was less than 1000

copies and less than 4 percent of them viewed that they had less than 40 copies of viral load. The rest reported that they did not know (Figure 6.21).

6. 4. 6. Discrimination and Stigmatization Encountered

It is seen that 42.78 percent of infected respondents felt they received discrimination. These findings indicate that HIV/AIDS education should expand its scope beyond basic information about HIV transmission and prevention. Target audiences of HIV/AIDS education should include both PLHIV and the general population in order to reduce discrimination. Cambodian law on prevention and control of HIV/AIDS prohibits all types of discrimination.

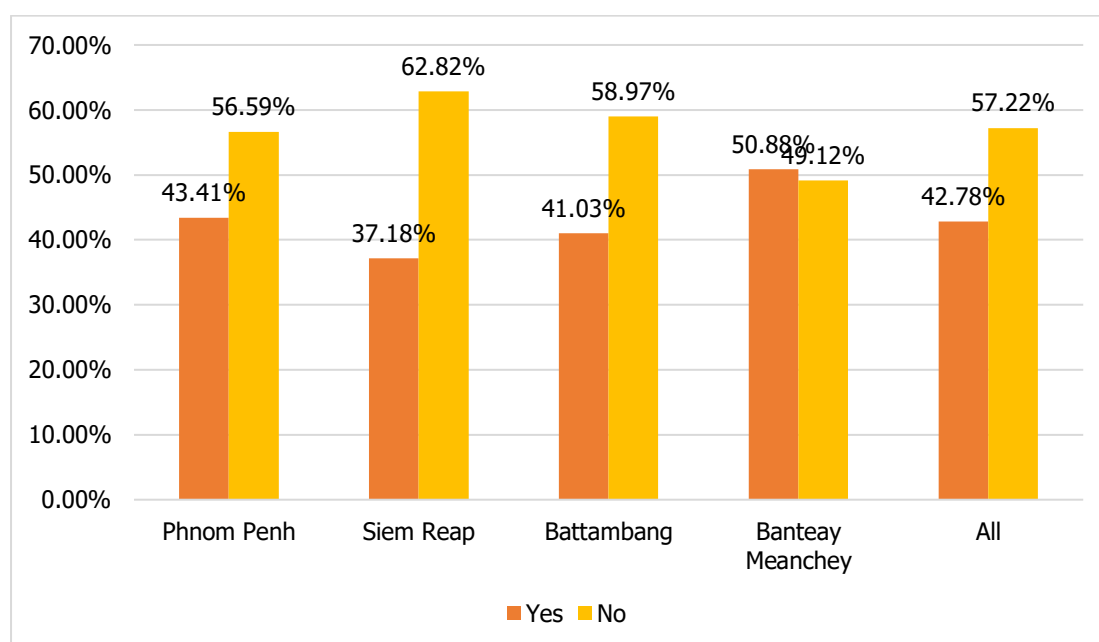
Wide-sector approaches to understand the HIV/AIDS affected people living in the community was to learn about their views on discrimination and stigmatization in which they encountered. Around 43.41 percent of the HIV/AIDS affected respondents who lived in Phnom Penh viewed that they were discriminated in the community while the rest viewed that they were not. Around 37.18 percent of the HIV/AIDS affected respondents who lived in Siem Reap viewed that they were discriminated in the community while the rest viewed that they were not. About 41.03 percent of the HIV/AIDS affected respondents viewed that they were discriminated in the community while the rest viewed, they were not. Around 50.88 percent of the HIV/AIDS affected respondents viewed that they were discriminated in the community while the rest viewed, they were not (Table 6.22 and Figure 6.22).

Table 6.22: Distribution of HIV/AIDS Infected Respondents as per their Views on Discrimination and Stigmatization Encountered

Yes/No	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
Yes	79	29	32	29	169
	43.41%	37.18%	41.03%	50.88%	42.78%
No	103	49	46	28	226
	56.59%	62.82%	58.97%	49.12%	57.22%
Total	182	78	78	57	395
	100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.22: Percentage of HIV/AIDS Infected Respondents as per their Views on Discrimination and Stigmatization Encountered



6. 5. Adequacy of HIV/AIDS Finance to Meet the Needs of the Beneficiaries

6. 5. 1. HIV/AIDS Treatment Cost

As we have seen in Table 6.23 that majority of the PLHIV access public services, the cost incurred to access this service is also high. Therefore, this has policy implication for coverage of PLHIV in HEF and other social protection scheme. The PLHIV continue to spend heavily on medical expenditures even though the ART is provided free of cost in government ART sites. Further in Table 6.24 the study also finds that the majority of the PLHIV are not able to finance their health care cost and also might be borrowing to get health services. This might have catastrophic impact on their household savings and income, we need to reduce the out-of-pocket expenditure for PLHIV (Table 6.23 and Figure 6.23).

Table 6.23: Average Treatment Cost of HIV/AIDS Born by the Infected Respondents during the Year of Study (In USD)

Sl. No.	Average Treatment Cost (In USD)	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
1	Medical	27.25	27.44	29.23	31.93	28.35
2	Transportation	14.42	22.34	16.50	18.71	17.01
3	Accommodation	8.38	11.83	9.39	18.71	17.01
4	All Total	150.96	307.82	173.01	38.77	170.10

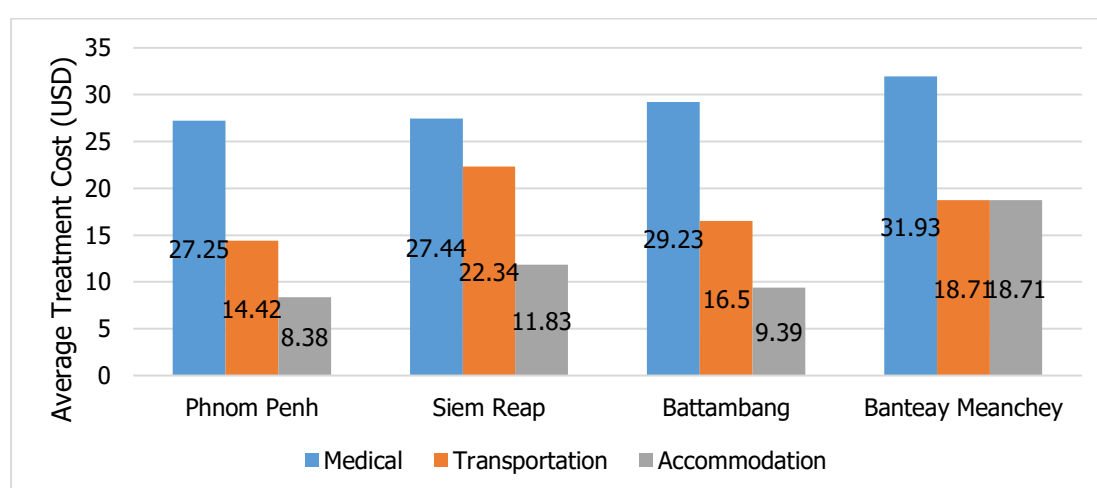
Source: Own Survey.

Figure 6.23 breaks down the expenditure born by PLHIV to get HIV/AIDS treatment by province. Since the average treatment cost is combine with medical cost, transportation and accommodation, the cost born by PLHIV in Battay Mean Chey is relatively higher than another province in terms of those three variables. Overall, Medical cost takes around 30%, transportation takes around 20 percent and accommodation take between 5 percent and 15 percent. Phnom Penh people spent 16.75 percent of total expenditure on medical care, 28.82 percent of total expenditure for transportation from home to health facilities and from health facilities back home and 54.48 percent of expenditure for accommodation to wait for medication. People living in Siem Reap paid the almost the same amount as people who living in Phnom Penh by categories, such as 44.53 percent for medical care, 36.26 percent for transportation from home to health facilities and vise-versa and 19.20 percent for accommodation. In total, people who living in Siem Reap province spent more than 307.82 USD to get the HIV/AIDS treatment.

In addition, people in Battambang and Banteay Meanchey which are the location where the migrant move in and out pent differently to get HIV treatment. People in Battambang spent 53.02 percent for medical care, 29.93 percent for transportation from home to health facilities and from health facilities to home and 17.04 percent for accommodation to wait for medical care. Whilst the people who live in Banteay Meanchey spend 46.04 percent for medical care and 26.97 percent for transportation to go back and forth for medical treatment and 26.97 percent in average for accommodation.

Overall, in the average the health expenditure done by PLHIV to get medical care was around 45.45 percent per person years. The transportation from home to health facilities and from health facilities back home was 27.27 percent while some of the spent around 27.267 percent for accommodation to get medical treatment.

Figure 6.23: Average Treatment Cost of HIV/AIDS Born by the Infected Respondents during the Year of Study (In USD)



6. 5. 2. Ability to Finance HIV/AIDS Treatment Cost

More than 28 percent of PLHIV were able to use their own pocket for ART service. This would be an evidence to NAA and MoH for amending the policy and law to provide free ART services only to those who cannot afford.

Looking in detail, 28 percent of people who live in Phnom Penh were able to pay for treatment cost and 72 percent (131) of them were not able to pay for the treatment cost. Around 33.3 percent of people who live in Siem Reap were also able to pay for treatment cost and 66.7 percent of them reported that they were not able to pay for that. The majority of people who live in the province

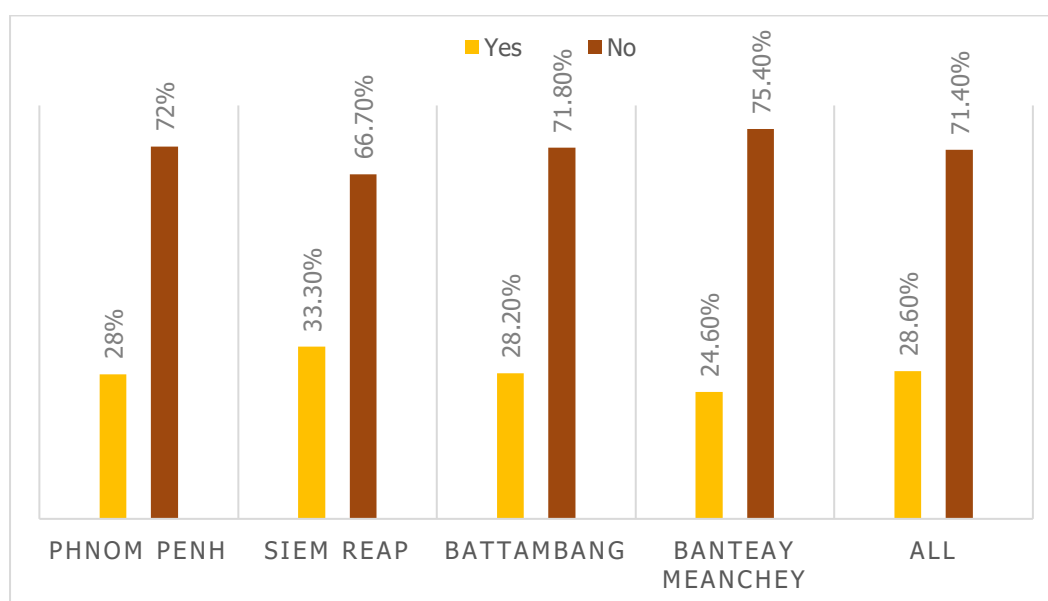
were not able to pay for the treatment cost, for instance, around 71.8 percent of people who live in Battambang and 75.4 percent of PLHIV who live in

Table 6.24: Distribution of HIV/AIDS Infected Respondents as per the Views on their Ability to Finance HIV/AIDS Treatment Cost

Sl. No.	Yes/No	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
1	Yes	51	26	22	14	113
		28%	33.3%	28.2%	24.6%	28.6%
2	No	131	52	56	43	282
		72%	66.7%	71.8%	75.4%	71.4%
Total		182	78	78	57	395
		100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

Figure 6.24: Percentage of HIV/AIDS Infected Respondents as per the Views on their Ability to Finance HIV/AIDS Treatment Cost



Banteay Meanchey were not able to pay. Around 28.2 percent of people who

live in Battambang were reported that they were able to pay for the treatment cost and approximately 24.6 percent of those who live in the Banteay Meanchey were able to pay.

Overall, the distribution of HIV/AIDS affected respondents regarding the ability to pay for treatment cost were almost the same across the nation. Around one quarter of the PLHIV were able to pay for treatment cost which include medical cost, transportation and accommodation (Table 6.24 and Figure 6.24).

6. 5. 3. Adequacy of Government Financial Help for the Treatment of HIV/AIDS

Table 6.25 and figure 6.25 report about the PLHIV's view on the adequacy level of government financial help for treatment of HIV/AIDS in 4 provinces. Around 82 percent of them viewed that the financial help from the government is adequate while less than one fifth (11.1 percent) of them viewed that financial support is not enough. Looking at provincial level, over half (66.7 percent) of PLHIV in Banteay Meanchey viewed that the treatment of HIV/AIDS is adequate while over 80 percent of PLHIV in Phnom Penh, Siem Reap and Battambang viewed that it is enough. This show that government financial help is enough to meet the need of the national HIV/AIDS response in Cambodia. Therefore, "Ho 1: HIV/AIDS finance is enough to meet the need of the national HIV/AIDS response" is not rejected. (Table 6.25 and Figure 6.25).

The views of PLHIV on the adequacy level of government financial help was very impressive toward the treatment of HIV/AIDS in Cambodia. Around 85.7 percent of people who live in Phnom Penh reported that the government

financial help was enough, 5.5 percent of them reported that the government financial help was adequate to some extent. On the other hand, 8.8 percent of them reported that the government financial help was not enough to support for treatment. Around 83.3 percent of people who live in Siem Reap reported that the government financial help was enough, 6.4 percent of them reported that the government financial help was adequate to some extent. On the other hand, 10.3 percent of them reported that the government financial help was not enough to support for treatment (Table 6.25).

Table 6.25: Distribution of HIV/AIDS infected Respondents as per their Views on the Adequacy Level of Government Financial Help for the Treatment of HIV/AIDS

Sl. No.	Adequacy Level	Phnom Penh	Siem Reap	Battambang	Banteay Meanchey	All
1	Adequate	156	65	65	38	324
		85.7%	83.3%	83.3%	66.7%	82.0%
2	Adequate to Some Extent	10	5	5	7	27
		5.5%	6.4%	6.4%	12.3%	6.8%
3	Not Adequate	16	8	8	12	44
		8.8%	10.3%	10.3%	21.1%	11.1%
Total		182	78	78	57	395
		100.00%	100.00%	100.00%	100.00%	100.00%

Source: Own Survey.

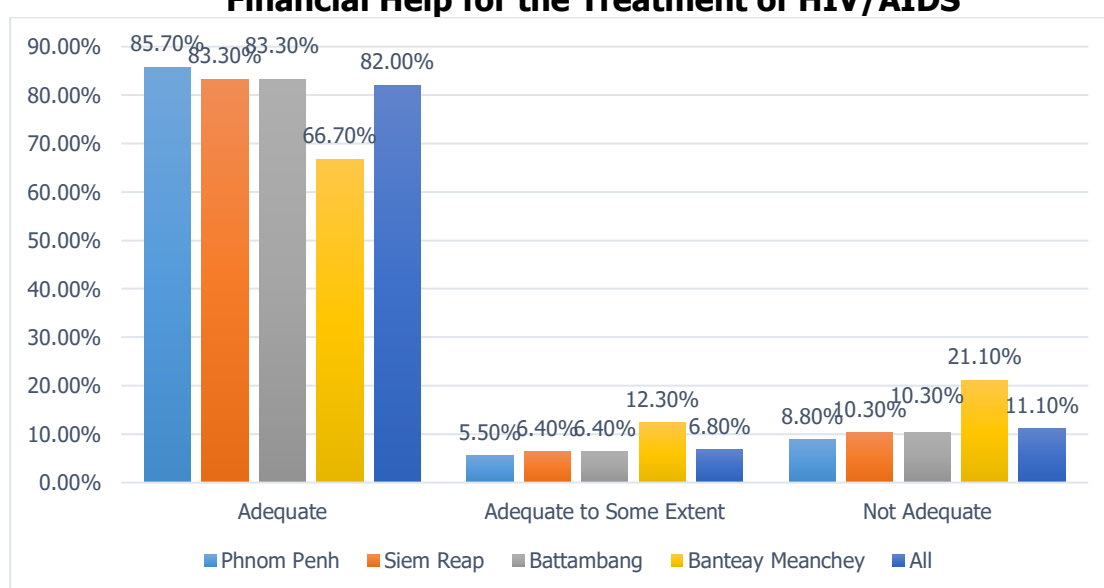
Looking the PLHIV who live in the provinces where the border is close to Thailand, around 83.3 percent of people who live in Battambang reported that the government financial help was enough, 6.4 percent of them reported that

the government financial help was adequate to some extent. On the other hand, 10.3 percent of them reported that the government financial help was not enough to support for treatment.

In the similar province, Banteay Meanchey, people there felt differently. Around 66.7 percent of people who live in Phnom Penh reported that the government financial help was enough, 12.3 percent of them reported that the government financial help was adequate to some extent. On the other hand, 21.1 percent of them reported that the government financial help was not enough to support for treatment (Figure 6.25).

Figure 6.25 report about the PLHIV's view on the adequacy level of government financial help for treatment of HIV/AIDS in 4 provinces. Around 82 percent of them viewed that the financial help from the government is adequate while less

Figure 6.25: Percentage of HIV/AIDS Infected Respondents as per their Views on the Adequacy Level of Government Financial Help for the Treatment of HIV/AIDS



than one fifth (11.1 percent) of them viewed that financial support is not enough. Looking at provincial level, over half (66.7 percent) of PLHIV in

Banteay Meancy viewed that the treatment of HIV/AIDS is adequate while over 80 percent of PLHIV in Phnom Penh, Siem Reap and Battambang viewed that it is enough. This show that government financial help is enough to meet the need of the national HIV/AIDS response in Cambodia.

6. 5. 4. Awareness on the Hazardous of HIV/AIDS

Table 6.26 illustrates the comparison of level of awareness on the hazardous of HIV/AIDS during the pre-financing and post-financing periods among the PLHIV who live in those 4 provinces. There is a statistically significant different between the periods ($p\text{-value} = 0.001$, $X^2 = 69.46$). Around 54.7 percent of the PLHIV (216) in pre-financing periods reported that they are not aware of the health hazardous of HIV/AIDS at all, around 42.8 percent of them (169) reported they are some extents aware and 2.5 percent of them (10) reported that they are very much aware. During the post-financing period, all of the respondents reported that they aware of the hazardous of HIV/AIDS. Over half of them (50.1 percent) are aware and almost of the other half (49.9 percent) are some extent awareness. The result in the table shows that the null hypothesis "Ho 2: There is no significant change in the awareness of the beneficiaries on HIV/AIDS between pre-financing and post-financing periods" is rejected (Table 6.26).

The level of awareness on the hazardous of HIV/AIDS during pre and post financing period was one of the important expected to understand the financial support to PLHIV. Around 5.1 percent of HIV/AIDS affected respondents reported that they had very much knowledge about the hazardous of HIV/AIDS

during pre-financing period, while 100 percent of reported they had very much knowledge on the hazardous of HIV/AIDS during the post-financing period. Around 60.6 percent of HIV/AIDS affected respondents reported that they had to some extent knowledge about the hazardous of HIV/AIDS during pre-financing period, while 71 percent of reported they had very much on the

Table 6.26: Distribution of HIV/AIDS Infected Respondents as per their Level of Awareness on the Hazardous of HIV/AIDS during the Pre-financing and Post-financing Periods

During Pre-financing Period	During Post-financing Period			
	Very Much	To Some Extent	Not at All	Total
Very Much	10	0	0	10
	5.1%	0.0%	0.0%	2.5%
To Some Extent	120	49	0	169
	60.6%	24.9%	0%	42.8%
Not at All	68	148	0	216
	34.3%	75.1%	0%	54.7%
Total	198	197	0	395
	100%	100%	0%	100%
$\chi^2 = 69.46$, Sig. Level = 0.001				

Source: Own Survey.

hazardous of HIV/AIDS during the post-financing period. Around 34.3 percent of HIV/AIDS affected respondents reported that they had not at all knowledge about the hazardous of HIV/AIDS during pre-financing period, while 31.48

percent of reported they had very much on the hazardous of HIV/AIDS during the post-financing period.

While PLHIV who had to some extent knowledge about the hazardous of HIV/AIDS in the pre-financing period, approximately around 24.9 percent of them still had the same knowledge on the hazardous of HIV/AIDS. Those who had not at all knowledge of the hazardous of HIV/AIDS in the pre-financing period would have to some extent knowledge of the hazardous of HIV in the post-financing period. Around 75.1 percent of those who had no knowledge get better knowledge on the health hazardous of HIV/AIDS. In short, more than half of the respondents reported that they had a better knowledge to aware on the hazardous of HIV/AIDS during the post financing periods.

6. 5. 5. Health Conditions of HIV/AIDS Patients

Table 6.27 illustrates the comparison of health condition during the pre-financing and post-financing periods among the PLHIV who live in those 4 provinces. There is no statistically significant difference between the periods ($p\text{-value} = 0.058$, $\chi^2 = 5.69$). During the pre-financing period, more than three fourth (70.1 percent) of the response reported that they have a severe health condition and one percent of theme reported of having extremely severe. Less than one third (28.9 percent) of them reported of having normal health condition. Whereas post-financing period, over 90 percent of the respondents (357) reported that their health condition is normal and 9.6 percent of them reported that their health condition is very much normal. Hence, the null hypothesis "Ho3: There is no significant change in the health conditions of

HIV/AIDS patients between pre-financing and post-financing periods” is rejected.

The perceiving health conditions among the HIV/AIDS affected respondents were very vital for policy makers and advocates to develop the support programming to enhancing the quality of life. Around 1.1 percent of them noted

Table 6.27: Distribution of HIV/AIDS Infected Respondents as per their Health Conditions during the Pre-financing and Post-financing Periods

During Pre-financing Period	During Post-financing Period				
	Extremely Severe	Severe	Normal	Very Much Normal	Total
Extremely Severe	0	0	4	0	4
	0%	0%	1.1%	0%	1.0%
Severe	0	0	244	33	277
	0%	0%	68.3%	86.8%	70.1%
Normal	0	0	109	5	114
	0%	0%	30.5%	13.2%	28.9%
Very Much Normal	0	0	0	0	0
	0%	0%	0%	0%	0%
Total	0%	0%	357	38	395
	0%	0%	100%	100%	100.00%
$\chi^2 = 5.69$, Sig. Level = 0.058					

Source: Own Survey.

that they were extremely severe during the pre-financing period, whilst 100 percent of them felt they were normal in the post financing period. Approximately, 68 percent of them found that they were in the sever health condition during the pre-financing period, while 88 percent of them reported

that they were normal and 18 percent of them were very much normal during the post-financing period.

In addition, around 13.2 percent of the HIV/AIDS affected respondents reported they were in normal health condition during the pre-financing period while 95.6 percent of them reported of having normal health condition during the post-financing period. None of the HIV/AIDS affected respondents were reported that they were in very much normal health condition during pre-financing period.

Overall, the health condition in post-financing period was much better than the health condition during the pre-financing period.

6. 5. 6. Change in Annual Income

The changes of annual income among the PLHIV are very crucial to maintain three important issues, such as living standard, social-economic status and psychology. Table 6.28 illustrates the annual incomes of PLHIV during the pre-financing and post-financing. There is a statically significant difference between the average annual income of PLHIV during the pre-finance Period and average annual income during the post-finance Period ($t = 11.936$, d.f. = 394, Sig. Level = 0.001). During the pre-financing period, the average annual income among all PLHIV is 801.87 [CI: 669.80-993.95]. Over 93.4 percent of the PLHIV earn the annual income less than USD 2,000, around 5.3 percent of them earned between USD 2,000 to USD 4,000 and around 1.3 percent of them earned over or above USD 6,000. Whereas the post-financing period, the average annual income of PLHIV was 1644.29 [CI: 1478.86-1809.72]. Around 70.6 percent of

PLHIV could earn less than USD 2,000, around 28.1 percent of them could earn between USD 2,000 to USD 6,000 and around 1.3 percent of them could earn around or over USD 6,000. Thus, the null hypothesis “Ho4: There is no significant change in income of the beneficiaries between pre-financing and post-financing periods” is rejected.

Table 6.28: Distribution of HIV/AIDS Infected Respondents as per their Annual Income during the Pre-financing and Post-financing Periods

During Pre-financing Period	During Post-financing Period				
	< USD 2000	USD 2000 – USD 4000	USD 4000 – USD 6000	≥ USD 6000	Total
< USD 2000	279	85	5	0	369
	100%	84.2%	50%	0%	93.4%
USD 2000 – USD 4000	0	16	5	0	21
	0%	15.8%	50%	0%	5.3%
USD 4000 – USD 6000	0	0	0	0	0
	0%	0%	0%	0%	0%
≥ USD 6000	0	0	0	5	5
	0%	0%	0%	0%	1.3%
Total	279	101	10	5	395
	100%	100%	100%	100%	100.00%
Average Annual Income during the Pre-finance Period = 801.87 [CI: 669.80-993.95], Average Annual Income during the Post-finance Period = 1644.29 [CI: 1478.86-1809.72], t = 11.936, Sig. Level = 0.001					

Source: Own Survey.

The annual income of HIV/AIDS affected people were very crucial to understand the ability to pay for both treatment and daily expenditure for family. 100 percent of the respondent reported that they earned less than 2,000 USD yearly during the pre-financing period, whilst about 75.61 percent of the respondents reported they could earn less than 2,000 USD per yearly during

the post-financing. Around 23 percent of them reported that they could earn between 2,000 USD and 4,000 USD during the post financing and approximately 1.40 percent of them reported they earned more than 4,000 USD annually during the post financial period.

At the same time, among the 21 respondents who reported they were earning between 2,000 USD and 4,000 USD annually during the pre-financing period were observed. 15.8 percent of the reported that they earned between 2,000 USD and 4,000 USD and 50 percent of them earned between 4,000 USD and 6,000USD during the post-financing period. 71 percent of them earned between 2,000 USD and 4,000 USD during the pre-financing period. Less than 30 percent of them earned between 4,000 USD and 6,000 USD during pre-financing period.

Regarding those who earned high income which were classified here is over 6,000 USD annually, 100 percent of the respondents were reported that they earned more than 6,000 USD annually during the pre-financing period. 100 percent of the respondents were reported that they earned more than 6,000 USD annually during the post-financing period. The number of respondents were the same as both during period and post-financing periods.

6. 5. 7. Change in Annual Health Expenditure

Annual change in health expenditure was calculated based on the government policy for public sectors. However, the study was aimed to address the out-of-pocket expenditure (OOPE) spent by the HIV/AIDS affected people. This is one of the contribution factors to public sectors whether to prepare for more or less support to health expenditure. Table 6.29 illustrates the distribution of

HIV/AIDS affected respondents as per their annual health expenditure or OOPE during the pre-financing and post-financing periods. There is a statically significant difference between the OOPE in pre-financing and post-financing

Table 6.29: Distribution of HIV/AIDS Infected Respondents as per their Annual Health Expenditure during the Pre-financing and Post-financing Periods

During Pre-financing Period	During Post-financing Period				
	<200 USD	200 – 400 USD	400 – 600 USD	≥600 USD	Total
<200 USD	321	0	0	13	334
	88.2%	0%	0%	76.5%	84.6%
200 – 400 USD	24	5	0	0	29
	6.6%	55.6%	0%	0%	7.3%
400 – 600 USD	4	4	5	0	13
	1.1%	44.4%	100%	0%	3.3%
≥600 USD	15	0	0	4	19
	4.1%	0%	0%	23.5%	4.8%
Total	364	9	5	17	395
	100%	100%	100%	100%	100.00%
Average Annual Health Expenditure during the Pre-finance Period = 165.85 [CI: 127.80-230.90], Average Annual Health Expenditure during the Post-finance Period = 141.13 [CI: 87.02-195.24], $t = 8.67$, Sig. Level = 0.001					

Source: Own Survey.

period done by PLHIV ($t = 8.67$, Sig. Level = 0.001). During the pre-financing period, the average annual health expenditure or OOPE is 165.85 [CI: 127.80-230.90]. Over 84.6 percent of the PLHIV spent for the annual health

expenditure less than USD 200, around 10.6 percent of them spent between USD 200 to USD 600 and around 4.8 percent of them spent around or above USD 600. Whereas the post-financing period, the average annual health expenditure or OPPE was 141.13 [CI: 87.02-195.24]. Around 92.2 percent of PLHIV spent less than USD 200, around 4.6 percent of them spent between USD 200 to USD 600 and around 4.3 percent of them spent around or over USD 600.

The annual health expenditure among HIV/AIDS affected people were very crucial to understand how much do they paid for both treatment, transportation and accommodation when they went to receiving medicine at health facilities. Few PLHIV spent on health annually, around 21.1 percent of the respondents were reported they spent more than 600 USD per yearly during pre-financial period whilst 4.1 percent of PLHIV spent on the same among during post-financing period. At the same time, around 38.46 percent of PLHIV reported that they spent between 400 USD and 600 USD on health annually during the pre-financing period. And around 100 percent of them paid between 400 USD and 600 USD on health during post-financing.

Scrutinizing the probability of the people who paid less amount of money for their health condition, around 17.24 percent of the PLHIV respondents reported that they spent from 200 USD to 400 USD during the pre-financing period. Around 55.5 percent of them reported that they spent between 200 USD and 400 USD on health condition. Around 82.76 percent of the spent less than 200 USD during the post-financing period.

Furthermore, around 96.11 percent of the HIV/AIDS affected respondents were reported that they spent less than 200 USD yearly on health during the pre-financing period. Around 88.2 percent of them reported that they spent the same amount during post-financing period. During the post-financing period people were also paying high to access to health care (Table 6.29).

6. 5. 8. Change in Annual Savings Amount

Annual savings amount is the most crucial indicator to understand the healthy life style of the population. This study aims at looking at the healthy life style of PLHIV during pre-financing and post-financing periods. Since the data obtained from the field survey shows that the annual savings is relatively low, our researcher decided to group in saving into four main categories, less than USD 300, between USD 300- USD 600, between USD 600- USD 900 and USD 900 and over. Table 6.30 illustrates the distribution of HIV/AIDS affected respondents as per their annual saving amount during the Pre-financing and Post-financing Periods. There is a statically significant difference between the annual saving amount during in pre-financing and post-financing period done by PLHIV ($t = 4.69$, Sig. Level = 0.001). During the pre-financing period, PLHIV saved in average was 109.37 [CI: 63.51-155.22]. Around 93.2 percent of the respondents (368) reported that they could save annually less than USD 300, around 4.5 percent of them (18) saved between USD 300 and USD 900 annually, and around 2.3 percent of them (9) reported that they saved approximately USD 900 or more annually. Whereas, the post-financing, all the respondents reported they could save some money annually in average was 207.822 [CI: 154.85-260.79]. Around 84.3 percent of them (333) saved less

than USD 300 annually, about 6.8 percent of them (27) reported that they saved between USD 300 and USD 900, and 8.9 percent of them (35) reported that they save approximately USD 900 or more. So, the null hypothesis "Ho6:

Table 6.30: Distribution of HIV/AIDS Infected Respondents as per their Annual Saving Amount during the Pre-financing and Post-financing Periods

During Pre-financing Period	During Post-financing Period				
	<300 USD	300 – 600 USD	600 – 900 USD	≥900 USD	Total
<300 USD	329	9	4	26	368
	98.8%	64.3%	30.8%	74.3%	93.2%
300 – 600 USD	4	5	5	0	14
	1.2%	35.7%	38.5%	0%	3.5%
600 – 900 USD	0	0	4	0	4
	0%	0%	30.8%	0%	1.0%
≥900 USD	0	0	0	9	9
	0%	0%	0%	25.7%	2.3%
Total	333	14	13	35	395
	100%	100%	100%	100%	100.00%
Average Annual Saving Amount during the Pre-finance Period = 109.37 [CI: 63.51-155.22], Average Annual Saving Amount during the Post-finance Period = 207.822 [CI: 154.85-260.79], $t = 4.69$, Sig. Level = 0.001					

Source: Own Survey.

There is no significant change in saving amount of the beneficiaries between pre-financing and post-financing periods" is rejected.

Annual saving amount during pre-financing and post-financing period was one of the key components to understand the household saving for the next expenditure. Around 89.4 percent of the PLHIV save less than 300 USD annual during the pre-financing period whilst 98.8 percent of them save less than 300 USD yearly during the post-financing period. The people who were in the group of saving less than 300 USD were also able to save higher during the post period, such 2.4 percent of them saved between 300 and 600 USD, 1 percent of them could save from 600 USD to 900 USD and 7.06 percent of them could save more than 900 USD.

During financing period, there were not many people could save more than 300 USD. However, during the post-financing period, around 1.2 percent could save between 300 USD and 600 USD. Around 35.7 percent of them was able to save between 300 USD to 600 USD. At the same time, 38.5 percent of them were also able to save from 300 USD to 500 USD. Interestingly, 30.8 percent of them could save between 600 USD and 900 USD and 25.7 percent of them could save more than 900 USD during the post-financing period (Table 30).

6. 5. 9. Change in Assets Value

Table 6.31 illustrates the Distribution of HIV/AIDS infected respondents as per their asset value during the Pre-financing and Post-financing Periods. The data was aggregated into 4 main categories, less than 2000 USD, between 2000-30000 USD, between 3000-6000 USD and 6000 USD and over using the percentile method. There is a statically significant difference of asset value between pre-financing and post-financing period responded by PLHIV ($t =$

14.81, Sig. Level= 0.001). During the pre-financing period, over half of total PLHIV (205 = 51.9%) reported they have asset value less than 2000 USD, around 35.2 percent of them report than they had the asset value between 2000 – 30000 USD, around 12.7 percent of them report of having asset value between 3,0000 and 60,000 USD and less than one percent of them (0.3%) reported of having asset value over 60,0000 USD. On the other hand, during the post-financing, there are some increases of people who have the asset values. over half of total PLHIV (206 = 52.2%) reported they have asset value less than 2000 USD, around 30.4 percent of them report than they had the asset value between 2000 – 30000 USD, around 17.0 percent of them report of having asset value between 3,0000 and 60,000 USD and less than one percent of them (0.5%) reported of having asset value over 60,0000 USD. Hence, the null hypothesis “Ho7: There is no significant change in assets of the beneficiaries between pre-financing and post-financing periods” is rejected.

Studying on the asset values which the HIV/AIDS affected people possessed during the pre-financing period, around 51.5 percent of them did not have any asset. Around 50.5 percent of those who live in Phnom Penh reported that they did not have any asset and around 55.1 percent of those who live in Siem Reap reported that they did not have any asset. Around 51.3 percent of those who live in Battambang reported that they did not have any asset and around 49.1 percent of those who live in Banteay Meanchey reported that they did not have any asset. Whereas during the post-financing period, around 50.4 percent of them did not have any asset. Around 51.6 percent of those who live in Phnom Penh reported that they did not have any asset and around 52.6 percent of

those who live in Siem Reap reported that they did not have any asset. Around 51.3 percent of those who live in Battambang reported that they did not have any asset and around 42.1 percent of those who live in Banteay Meanchey reported that they did not have any asset.

Perusing on the asset values of having animal which the HIV/AIDS affected people possessed during the pre-financing period, around 1.8 percent of them had animals. Around 2.7 percent of those who live in Phnom Penh reported that they have animals around none of those who live in Siem Reap reported that they animals. Around 2.6 percent of those who live in Battambang reported that they animals and around none of those who live in Banteay Meanchey reported that they have animals. Whereas during the post-financing period, around 1.0 percent of them have animals. Around 1.6 percent of those who live in Phnom Penh reported that they animals and around none of those who live in Siem Reap reported that they had animals. Around 1.3 percent of those who live in Battambang reported that they did not have any asset and around none of those who live in Banteay Meanchey reported that they did not have any asset.

Learning on the asset values of having motorbike which the HIV/AIDS affected people possessed during the pre-financing period, around 11.9 percent of them had a motorbike. Around 11.0 percent of those who live in Phnom Penh reported that they had a motorbike around 10.3 percent of those who live in Siem Reap reported that they had a motorbike. Around 10.3 percent of those who live in Battambang reported that they had a motorbike and around 19.3 percent of those who live in Banteay Meanchey reported that they had a

motorbike. Whereas during the post-financing period, around 14.9 percent of them had a motorbike. Around 13.2 percent of those who live in Phnom Penh reported that they had a motorbike and around 11.5 percent of those who live in Siem Reap reported that they had a motorbike. Around 14.1 percent of those who live in Battambang reported that they had a motorbike and around 26.3 percent of those who live in Banteay Meanchey reported that they had a motorbike.

Reviewing on the asset values of having a car and a motorbike which the HIV/AIDS affected people possessed during the pre-financing period, around 2.5 percent of them having a car and a motorbike. Around 3.3 percent of those who live in Phnom Penh reported that they having a car and a motorbike. Around 2.6 percent of those who live in Siem Reap reported that they having a car and a motorbike. Around 2.6 percent of those who live in Battambang reported that they having a car and a motorbike and none of those who live in Banteay Meanchey reported that they having a car and a motorbike. Whereas during the post-financing period, around 3.5 percent of them having a car and a motorbike. Around 13.8 percent of those who live in Phnom Penh reported that they having a car and a motorbike and around 5.1 percent of those who live in Siem Reap reported that they having a car and a motorbike. Around 2.6 percent of those who live in Battambang reported that they having a car and a motorbike and around 1.8 percent of those who live in Banteay Meanchey reported that they having a car and a motorbike.

Perusing on the asset values of having a house which the HIV/AIDS affected people possessed during the pre-financing period, around 13.9 percent of them

having a house. Around 13.2 percent of those who live in Phnom Penh reported that they having a house. Around 14.1 percent of those who live in Siem Reap reported that they having a house. Around 14.1 percent of those who live in Battambang reported that they having a house and 15.8 percent of those who live in Banteay Meanchey reported that they having a house. Whereas during the post-financing period, around 18.5 percent of them having a house. Around 15.9 percent of those who live in Phnom Penh reported that they having a house and around 19.2 percent of those who live in Siem Reap reported that they having a house. Around 17.9 percent of those who live in Battambang reported that they having a house and around 26.3 percent of those who live in Banteay Meanchey reported that they having a house.

Learning on the asset values of having a house and a plot of land which the HIV/AIDS affected people possessed during the pre-financing period, around 11.9 percent of them having a house and a plot of land. Around 10.4 percent percent of those who live in Phnom Penh reported that they having a house and a plot of land. Around 12.8 percent of those who live in Siem Reap reported that they having a house and a plot of land. Around 11.5 percent of those who live in Battambang reported that they having a house and a plot of land and 15.8 percent of those who live in Banteay Meanchey reported that they having a house and a plot of land. Whereas during the post-financing period, around 5.1 percent of them having a house and a plot of land. Around 4.9 percent of those who live in Phnom Penh reported that they having a house and a plot of land and around 6.4 percent of those who live in Siem Reap reported that they having a house and a plot of land. Around 5.1 percent of those who live in

Battambang reported that they having a house and a plot of land and around 3.5 percent of those who live in Banteay Meanchey reported that they having a house and a plot of land.

Table 6.31: Distribution of HIV/AIDS Infected Respondents as per their Asset Value during the Pre-financing and Post-financing Periods

During Pre-financing Period	During Post-financing Period				
	<2000 USD	2000 – 30000 USD	3000 – 60000 USD	≥6000 USD	Total
<2000 USD	173	22	10	0	205
	84.4%	10.7%	4.9%	0.0%	100%
2000 – 30000 USD	17	98	23	1	139
	12.2%	70.5%	16.5%	0.7%	100%
30000 – 60000 USD	16	0	34	0	50
	32%	0.0%	68%	0.0%	100%
≥60000 USD	0	0	0	1	1
	0.0%	0.0%	0.0%	100%	100%
Total	206	120	67	2	395
	52.2%	30.4%	17.0%	0.5%	100.00%
Average Asset Value during the Pre-finance Period = 12,327.85 [CI: 10,691.0 – 13,964.7], Average Asset Value during the Post-finance Period = 12,706.33 [CI: 10,906.86 – 14,505.80], $t = 14.81$, d.f. = 394, Sig. Level=0.001					

Source: Own Survey.

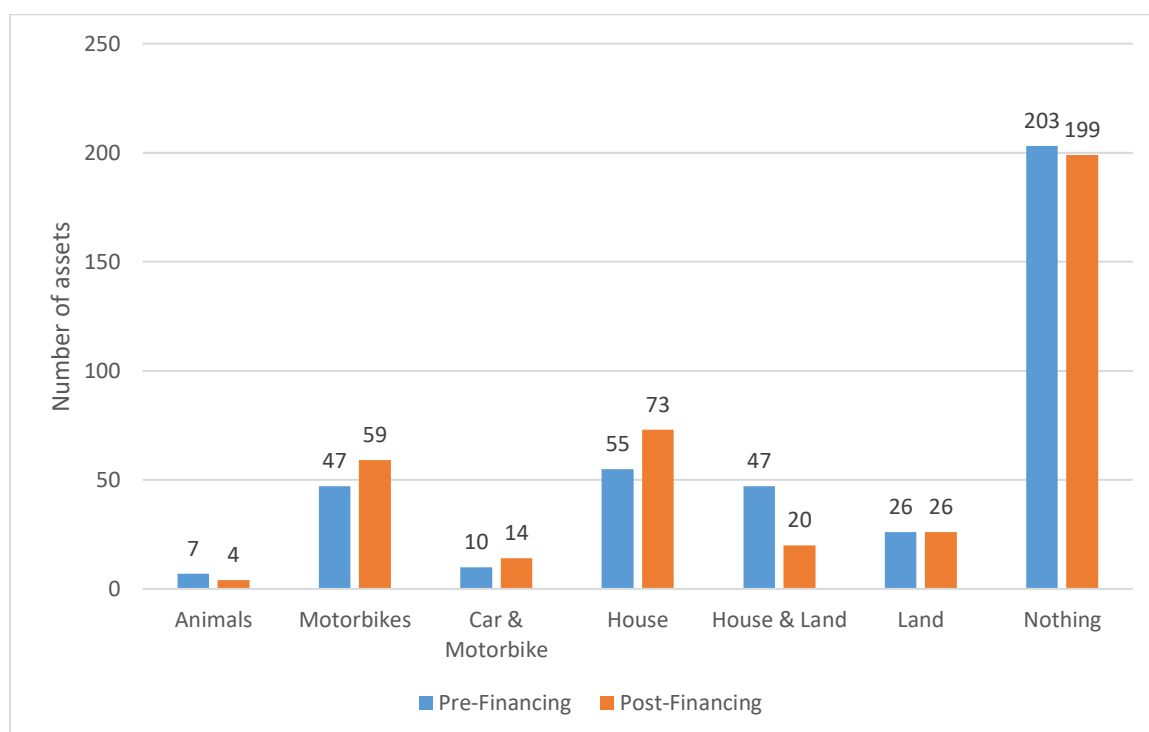
Studying on the asset values of having at least a plot of land which the HIV/AIDS affected people possessed during the pre-financing period, around 6.6 percent of them having at least a plot of land. Around 8.8 percent of those

who live in Phnom Penh reported that they having at least a plot of land. Around 5.1 percent of those who live in Siem Reap reported that they having at least a plot of land. Around 7.7 percent of those who live in Battambang reported that they having at least a plot of land and none of those who live in Banteay Meanchey reported that they having at least a plot of land. Whereas during the post-financing period, around 6.6 percent of them having at least a plot of land. Around 8.8 percent of those who live in Phnom Penh reported that they having at least a plot of land and around 5.1 percent of those who live in Siem Reap reported that they having at least a plot of land. Around 7.7 percent of those who live in Battambang reported that they having at least a plot of land and none of those who live in Banteay Meanchey reported that they having at least a plot of land.

The below figure shows the distribution of asset value among the PLHIV during pre-financing and post financing period in the number of assets. More than half of the respondents reported of having no assets in the two periods. 26 out of 395 of the respondents reported of having at least a plot of land in the two periods. 47 out of 395 respondents reports of having a house and a lot of land during the pre-financing period. However, less than half of them reported of having house and land during the post-financing period. Similarly, 55 out of 395 respondents reported of having a house during the pre-financing period and 73 of them reported of having a house during the post-financing period. Between 10 to 14 respondents reported of having a car and a motorbike during pre-financing and post-financing period. Furthermore, between 47 to 59 respondents reported of having at least a motorbike during pre-financing and

post-financing period. Last but not the least, between 4 and 7 respondents reported of having at least an animal during pre-financing and post-financing period.

Figure 6.26: Distribution of HIV/AIDS Infected Respondents as per their Asset Value during the Pre-financing and Post-financing Periods



Thus, the analysis in the chapter shows that some PLHIV still received discrimination. More PLHIV viewed the adequacy level of government financial help for treatment of HIV/AIDS and some viewed that financial support is not enough. This show that government financial help is enough to meet the need of the national HIV/AIDS response in Cambodia. The level of awareness on the hazardous of HIV/AIDS increased in the post-financing periods among the PLHIV. The health condition during the post-financing periods among the PLHIV are better. Furthermore, the changes of annual income among the PLHIV are

very crucial to maintain three important issues, such as living standard, social-economic status and psychology. There is a statically significant different between the average annual income of PLHIV was increased in the post-financing period compared to during the pre-finance; and the OOEPE in the post-financing period done by PLHIV declined. Particularly, annual saving amount and their asset value during the post-financing periods were growth.

HIV/AIDS funding in Cambodia seems being decreasing. This may be related to the external funding less and less available for Cambodia due to economic growth each year base on government of Cambodia report to the world and the donors. This may change the criteria of Cambodia in getting fund from outside while the domestic fund increased steadily to fill the gaps of fund in HIV/AIDS response. Shortage of financial resources, some good qualified staff were moved out, and others were retired, it is the main challenges to be effective delivery of HIV prevention, care and treatment. Capacity building of institutions, organizations and infrastructure were required to dealt effectively, timely and successfully responses to HIV in Cambodia. HIV/AIDS response needed strengthening of health care systems ranging from health infrastructures (innovation for integrated laboratory services, Adult and Pediatric AIDS care services) within public health services, as well as ongoing building capacity for health care workers to provide good quality of HIV prevention, care and treatment services.

CHAPTER VII

CONCLUSION AND RECOMMENDATIONS

The last chapter summarizes the main findings of the study, draws conclusion and provides recommendations on the basis of the findings of the study.

7. 1. Main Findings of the Study

The Royal Government of Cambodia, with financial and technical support from development partners and civil society organizations, actively responded in order to contain the spread of the epidemic. HIV/AIDS care and treatment services expanded significantly in order to keep up with the increasing demand from people in need of anti-retroviral treatment (ART) and to achieve viral suppression and bring PLHIV healthy.

The financing of HIV/AIDS was a vital factor and which played a crucial role in HIV/AIDS response in Cambodia. The study goal examined the financing of HIV/AIDS impacts on the beneficiaries in Cambodia. The objectives of the study are as follows:

- i. Described HIV/AIDS financing in different countries in the world.
- ii. analyzed the impact of financing of HIV/AIDS on the beneficiaries in different countries in the world.
- iii. Knew the sources, amount and utilization of HIV/AIDS financing in the study area over the time period.
- iv. Discussed on HIV/AIDS status, interventions, issues and challenges in the study area.

- v. Examined the impact of HIV/AIDS financing on the beneficiaries in the study area.
- vi. Provided recommendations for enhancing the HIV/AIDS finance and its better utilization so that maximum benefits will reach to the beneficiaries.

The study used both descriptive and quantitative approaches to meet the objectives of the study. In descriptive approach, the study focused on relevant literatures and key informants, whereas, in quantitative approach, necessary tables, graphs and statistical models used. Both primary and secondary data collected for the study. The primary data was collected from 395 HIV/AIDS affected people living in the four provinces, Phnom Penh, Siem Reap, Battambang, and Banteay Meanchey, and 30 key informants working for the public institutions, development partners and civil society organizations in Cambodia. The study tested the following null hypotheses:

Ho 1: HIV/AIDS finance was enough to meet the need of the national HIV/AIDS response.

Ho 2: There was no significant change in the awareness of the beneficiaries on HIV/AIDS between pre-financing and post-financing periods.

Ho 3: There was no significant change in the health conditions of HIV/AIDS patients between pre-financing and post-financing periods.

Ho 4: There was no significant change in income of the beneficiaries between pre-financing and post-financing periods.

Ho 5: There was no significant change in health expenditure of the beneficiaries between pre-financing and post-financing periods.

Ho 6: There was no significant change in saving amount of the beneficiaries between pre-financing and post-financing periods.

Ho 7: There was no significant change in assets of the beneficiaries between pre-financing and post-financing periods.

Chapter II reviewed the relevant literature and research papers of the study.

The important findings of the chapter are as below:

1. In 1981, AIDS was diagnosed for the first time in the United States. Two years later in 1983, a retro-virus called Human Immunodeficiency Virus (HIV) was identified. While entering the blood system, the retrovirus attacks T-lymphocytes CD4 (a type of white blood cells), in which co-ordinate the formation of antibodies and the immune system of a human body, meanwhile the retrovirus reverses the DNA structure of the T- lymphocytes.
2. Nowadays, most developing countries were depending on external assistance includes multilateral and bilateral donors and creditors. Many multilateral institutions and bilateral government had two financing windows which were a concessional window for aiding finance and a non-concessional window for exporting credits or market-related loans.
3. Until now, four new financing mechanisms such as The Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund), the US President's Emergency Plan for AIDS Relief (PEPFAR) and UNITAID had been developed

to ensure sustainable financing for HIV/AIDS and other diseases. Due to the facts that it will be impossible for most low- and middle-income countries to fund the response from domestic sources, the four new financing mechanisms mentioned above could channel substantial amounts of international funding to the countries.

4. Domestic resources had a big contributor in the efforts against HIV. The resolution to increase the effectiveness of Government's expenditure was by improving both allocative and technical efficiency.
5. The external fundings for HIV/AIDS had been consistency for more than a decade throughout 2008. The development of the Sustainable Development Goals (SDGs), including their emphasis on a wider range of development financing, along with increased advocacy and attention to other development priorities such as climate change and migration, had narrowed the space for substantial external HIV-specific funding in most countries.
6. The Government played an important role in reducing expenditures, especially for PLHIV and key populations. The Government should develop sustainability plans as to how existing programs and plans could be implemented without support from partners. New and existing projects that rely on development partner funds should develop financial sustainability plans and implement them as soon as possible. On the other hand, advocacy should also be heightened to include ARVs and family planning services and commodities in the National Health Insurance Scheme (NHIS) Package.

7. The HIV response still required a sustainability financing for future. Based on flat-lining international aid, countries willingness and ability to shoulder this responsibility will be vital to access to HIV care. This paper examined the potential to expand public HIV financing, and the extent to which governments have been utilizing these options.

Chapter III discussed about the research methodology of the study which includes:

1. The analysis used both qualitative and quantitative methods with in-depth interview and cross-sectional data designs. In order to review the relevant literatures, descriptive analysis was made.
2. The study used both primary and secondary data. Primary data was collected from the direct beneficiaries of HIV/AIDS financing, i.e., HIV/AIDS infected people receiving benefits in the HIV/AIDS burden areas. Further, views of the key informants from other institutions working on HIV/AIDS response in Cambodia were included. The secondary data was from the existing documents relating to HIV/AIDS financing in Cambodia available in the agencies.
3. The total 395 samples of each selected provinces/city were calculated on the basis of percentage of HIV/AIDS beneficiaries in the selected provinces/city to total number of HIV/AIDS beneficiaries in all selected provinces/cities. Moreover, 30 key informants or officials, three each from the institutions.
4. To collect primary data, at first, out of the 25 provinces/cities in the country, four provinces/cities such as: Phnom Penh municipality, Siem Reap,

Battambang, and Banteay Meanchey were selected purposely under the condition that these provinces/cities were the concentration of the number of HIV/AIDS infected people or direct beneficiaries of HIV/AIDS financing in Cambodia was very high. Proportional random sampling was used to select the 395 HIV/AIDS infected people from these four provinces/municipalities. Further, 30 key informants or officials working in the organizations was purposely selected under the condition of their leadership and management level.

5. The study used simple statistical tools like average, percentage and graphs to analyze the data. Chi-square test (χ^2) and had been used to test the hypotheses of the study.
6. For secondary data, a detail check list was prepared, and relevant data as per the list was collected from the institutions. The primary data was collected by using questionnaires through direct personal interview with the direct beneficiaries.
7. All collected data set, was first cleaned and edited, then data set was entered into Excel program software. Double check procedure was performed to ensure reliability and accuracy of the data set. Then, the data processing was conducted to generate necessary and required information responding to the study objectives through computing number, percentage, average, test statistics etc. Then, that information was organized into tables and graphs and finally it was documented as the study report or thesis for dissertation.

8. The study covered all HIV and AIDS financing data over the period of the last ten years from all agencies who provided and received HIV and AIDS funds in Cambodia including both national and external funding. The study was conducted in the five HIV/AIDS prone area. The study also included the key informants working on HIV/AIDS financing in the institutions.

Chapter IV discussed the socio-economic profile of the Cambodia which includes:

1. Cambodia had been viewed as an agricultural country located in Southeast Asia. It was border with Thailand to the west, Laos and Thailand to the north, the Gulf of Thailand to the southwest, and Vietnam to the east and the south. It had a total land area of 181,035 square kilometers.
2. According to the population projection, Cambodian population was around 17.1 million in 2023 with a total fertility rate (TFR) decreased from 4.0 in 2000 to 2.7 in 2014. Usually, the fertility rate in urban areas is lower than in rural areas due to the fact that TFR in 2014 was 2.1 in urban areas and 2.9 in rural areas. Furthermore, maternal mortality ratio per 100,000 live births which was 461 deaths in 2008, was declined to 206 deaths in 2010 and continued to decline to 170 deaths in 2014. Hence, the proportion of the population living in rural areas is 80.5 percent; meanwhile only 19.5 percent of the country's residents live in urban areas.
3. Education system in Cambodia was controlled by the state through the Ministry of Education, Youth and Sport at the national level and by the Department of Education at the provincial level. The Constitution of

Cambodia demonstrated that the state should protect and upgrade citizen's rights to have equal opportunity to earn a living as well being able to access to education system. In Phnom Penh, the literacy rate from 6 years and above was about 91 percent of women and 96 percent of men. It could be assumed that men had a higher rate than women in all geographical areas. The literacy rate in Cambodia was highest among women and men in the age group 15-24 years. The literacy rate among men was higher than among women in all ages except in the age group 15-24 where the literacy rate was higher among women.

4. Adequate health infrastructure not only facilitated and supports the delivery of health services but also provided the capacity to delivery effective and efficient health services. Ministry of Health was attracted to the ideas of enhancing capacity of health facilities to provide both essential health services mainly at health centers (HCs) and specialized services mainly at referral hospitals (RHs). The OI and ART had been provided in all the Operation District (OD), provinces and cities from 32 sites in 2005 to 51 sites in 2010 and 68 sites in 2018. These 64 OI and ART services were supported by the government and 4 sites by NGOs and partner. On top of that, of the total 68 OI/ART sites, there were 41 sites provide pediatric care.
5. Compared to Phnom Penh and other rural areas, the number of gender differences were somewhat larger in rural areas. In 2017, the employment rate of working age population aged 15-64 years was about 84 percent. In Cambodia, the employment rate was about 80 percent for women and about

89 percent for men. Additionally, the rate was about 87 percent in rural areas, while urban areas was 80 percent. Phnom Penh with about 75 percent.

6. In Cambodia, tourist arrivals increased from a 5.0 percent year-on-year increase, compared with 6.1 percent in 2015. International arrivals by air grew by 9.2 percent year-on-year in 2016, similar to the increase seen in 2015. Asia continued to be the major source of tourists and the top five Asian countries which accounted for about 60 percent of the market share in 2016. Meanwhile, Vietnam, China, and Thailand are the main countries of origins, accounting for 19.1 percent, 16.6 percent, and 7.8 percent of the total share, respectively.

7. There was still room for more investment as Cambodia's economic did not rely much on investment. An analysis on the contribution of expenditure to gross domestic product (GDP) indicated that the source of growth of over 70 percent of GDP depended on private consumption, 21 percent in investment, 12 percent in public expenditure of the government and other organizations, while exports covering the rest. The contribution rate of investment should be between 30 percent and 40 percent or even higher in order to be considered as a development country.

8. The epidemic in Cambodia had been on a steady decline since the late 1990s, with HIV prevalence falling from around 1.7 percent in 1998 to 0.6 percent in 2015 (National AIDS Authority, 2015). Antiretroviral treatment (ART) was used by an increasing proportion of people living with HIV (PLHIV), with 75.4 percent of PLHIV receiving ART at the end of 2015. To achieve this,

Cambodia had used a multi-sectorial response to HIV and AIDS, which had enabled it to successfully prevent HIV infections among high-risk groups such as injecting drug users (IDU), men who have sex with men (MSM), and female entertainment workers.

The chapter V discussed the financing of HIV/AIDS in Cambodia. The chapter showed the sources, amounts and the utilization of HIV/AIDS financing over a period of time in Cambodia. Besides, the chapter also highlighted HIV/AIDS status, interventions, issues and challenges in the country.

1. Health financing in Cambodia was in transition, primarily as a consequence of generally declining donor contributions to many middle-income countries including Cambodia, and the country's rapid economic development, which gradually reduced its eligibility for aid. In 2017, Gross Domestic Product (GDP) per capita was estimated at \$ 1,390 and economic growth averaged 7.1 percent in 2012 until 2017.

2. Among seven countries Cambodia was globally to have achieved the 90-90-90 targets in 2017. To be more specific, 87 percent of People Living with HIV (PLHIV) knew their status, 98 percent of those were on anti-retroviral therapy (ART), and an estimated 83 percent of PLHIV on ART had achieved viral suppression. These achievements had been driven by the strong support from the Royal Government of Cambodia and the work of local Civil Society Organizations (CSOs). External sources played an important role in funding the HIV response.

3. Cambodia had several government institutions, donors, non-governmental organizations and other communities working on HIV/AIDS response, such as National AIDS Authority (NAA), National Centre for HIV/AIDS Dermatology and STDs (NCHADS), Khmer HIV/AIDS NGO Alliance (KHANA), AIDS Healthcare Foundation (AHF), HIV/AIDS Coordinating Committee (HACC), Family Health International 360 (FHI360), Catholic Relief Services (CRS), Cambodian People Living with HIV Network (CPN+), Joint United Nations Programme on HIV/AIDS (UNAIDS), United States Agency for International Development (USAID), President Emergency Plan for AIDS Relief (PEPFAR), and Country Coordinating Committee (CCC).

Chapter VI discussed in detail about presentation and information from analysis. Based on the results of the questionnaires studied from 395 respondents and the view of key informants, the main findings are highlighted as follows:

1. The respondents were most equally distributed based on sex. The sex proportion was almost equally distributed across the four provinces selected for the study.
2. The study mainly covered the age group of 40-59 years, predominantly almost two-third of the total respondents. 26 percent of the respondents were less than 39 years old and around 9 percent of the respondents were of the age more than 60 years old.

3. The marital status of the respondents indicated that 11.90 percent was single, 57.97 percent was married, 18.73 percent was separated, 11.39 percent was divorced.
4. The education background of the respondents showed that 7.34 percent does not study, 39.24 percent learns in primary level, 33.42 percent learns in junior secondary level, 16.71 percent learns in senior secondary level, and 3.29 percent studies at university level.
5. The occupation of the respondents showed that 8.61 percent was housewife, 16.96 percent was farmer, 26.33 percent was worker, 21.33 percent was uniformed service, 1.27 percent was private staff, 13.42 percent was sellers, 7.09 percent was jobless, and 5.32 percent was others.
6. The number of children of the respondents showed that 19.75 percent had child, 26.06 percent had two children, 22.28 percent had three children, 11.90 percent had four children, 1.75 percent had five children, and 10.53 percent had no child.
7. In majority, the average income of the family per day among the respondent was less than USD 10. Very few of them (not more than 12 percent of the respondent) had income more than USD 15 per day.
8. More than 75 percent of PLHIV respondents, reported that the mode of HIV transmissions was through sexual intercourse.
9. Among the married respondents, 43.04 percent of their couple had HIV positive.

10. Overall, the rate of condom use was as lower than 50 percent.
11. The ARV treatment showed that 100 percent of respondents had access to ART services.
12. The result showed that 36.46 percent of infected respondent's partner was also under ART.
13. The majority of the PLHIV (around 98.73 percent) accessed to public services for ART services, and the rest (1.27 percent) was able to use the Civil Society organization ART clinic that was normally a free-of-charge service.
14. The result showed that 98.99 percent of respondents followed the prescription regularly and continuously.
15. More than 94 percent of respondents received HIV and AIDS education.
16. In average, about 21 percent of PLHIV received support in their descent job, while only one percent received housing support. However, the child education support was significantly high, almost 77 percent.
17. On average, about 81 percent of PLHIV felt normal while more than 17 percent of them said that they were weak than before.
18. More than 80 percent of respondents learned about their CD4 counts, while less than 20 percent did not.

19. In this study, 15.95 percent of respondents had their CD4 counts less than 300, 32.41 percent less than 600, 19.49 percent less than 900, 1.27 percent less than 1,200, and 30.89 percent did not know their CD4 status.
20. Only more than two-thirds of PLHIV respondents learned about their viral load.
21. More than 31 percent of respondents had viral load less than 40 copies, and more than 58 percent did not know their viral load status.
22. There is 42.78 percent of respondents who felt that they were discriminated.
23. The respondents had high out-of-pocket expenditure for their health.
24. More than 28 percent of PLHIV were able to use their own pocket for ART service.
25. The PLHIV's view on the adequacy level of government financial helped for treatment of HIV/AIDS in four provinces. Around 82 percent of them viewed that the financial helped from the government was adequate while less than one fifth (11.1 percent) of them viewed that financial support was not enough. Looking at provincial level, over half (66.7 percent) of PLHIV in Banteay Meanchey viewed that the treatment of HIV/AIDS was adequate while over 80 percent of PLHIV in Phnom Penh, Siem Reap and Battambang viewed that it was enough. This show that government financial help was enough to meet the need of the national HIV/AIDS response in Cambodia.

26. The level of awareness on the hazardous of HIV/AIDS during the pre-financing and post-financing periods among the PLHIV. There was a statistically significant difference between the periods. Around 54.7 percent of the PLHIV in pre-financing periods reported that they were not aware of the health hazardous of HIV/AIDS at all, around 42.8 percent of them reported they were some extent aware and 2.5 percent of them reported that they were very much aware. During the post-financing period, all of the respondents reported that they were aware of the hazardous of HIV/AIDS. Over half of them (50.1 percent) were aware and almost the other half (49.9 percent).

27. The health condition during the pre-financing and post-financing periods among the PLHIV. There was no statistically significant difference between the periods. During the pre-financing period, more than 70.1 percent of the respondents reported that they had a severe health condition and one percent of them reported of having extremely severe. Less than 28.9 percent of them reported of having normal health condition. Whereas post-financing period, over 90 percent of the respondents reported that their health condition was normal and 9.6 percent of them reported that their health condition was very much normal.

28. The changes of annual income among the PLHIV were very crucial to maintain three important issues, such as living standard, social-economic status and psychology. There was a statistically significant difference between the average annual income of PLHIV during the pre-finance. During the pre-

financing period, over 93.4 percent of the PLHIV earn the annual income less than USD 2,000, around 5.3 percent of them earned between USD 2,000 to USD 4,000 and around 1.3 percent of them earned over or above USD 6,000. Whereas the post-financing period, the average annual income of PLHIV was around 70.6 percent of PLHIV could earn less than USD 2,000, around 28.1 percent of them could earn between USD 2,000 to USD 6,000 and around 1.3 percent of them could earn around or over USD 6,000.

29. There was a statically significant difference between the OOPE in pre-financing and post-financing period done by PLHIV. During the pre-financing period, the average annual health expenditure or OOPE was over 84.6 percent of the PLHIV spent for the annual health expenditure less than USD 200, around 10.6 percent of them spent between USD 200 to USD 600 and around 4.8 percent of them spent around or above USD 600. Whereas the post-financing period, OPPE was around 92.2 percent of PLHIV spent less than USD 200, around 4.6 percent of them spent between USD 200 to USD 600 and around 4.3 percent of them spent around or over USD 600.

30. There was a statically significant difference between the annual saving amount during in pre-financing and post-financing period done by PLHIV. During the pre-financing period, PLHIV saved in average were around 93.2 percent of the respondents reported that they saved annually less than USD 300, around 4.5 percent of them saved between USD 300 and USD 900 annually, and around 2.3 percent of them reported that they saved approximately USD 900 or more annually. Whereas, the post-financing, all

the respondents reported they could save some money annually in average were around 84.3 percent of them saved less than USD 300 annually, about 6.8 percent of them reported that they saved between USD 300 and USD 900, and 8.9 percent of them reported that they save approximately USD 900 or more.

31. The distribution of HIV/AIDS infected respondents as per their asset value during the pre-financing and post-financing periods in four provinces showed that most of people would like to own some assets, such as lands, houses, transportation, animals and so on. Overall, there were any differences between two periods in term of those asset. For example, around 51.5 percent of respondents reported of have no assets during pre-financing period, while 50.4 percent of them reported of having no assets during post-periods.

32. Most of key informants expressed that the success of HIV program along with country economic growth, donors and development partners were in the process of phasing out its commitment to support for HIV program, while advocate the national budget to fulfil this funding gaps. Therefore, it might take times for the government to be ready to fill those funding gaps for HIV program.

33. HIV/AIDS funding in Cambodia seemed being decreasing. This may be related to the external funding less and less available for Cambodia due to economic growth each year base on government of Cambodia report to the world and the donors. This may change the criteria of Cambodia in getting

fund from outside while the domestic fund increased steadily to fill the gaps of fund in HIV/AIDS response.

34. Most of key informants opined shortage of financial resources, some good qualified staff were moved out, and others were retired, it was the main challenges to be effective delivery of HIV prevention, care and treatment.

35. They mentioned that contribution to build capacity of institutions, organizations and infrastructure were required to dealt effectively, timely and successfully responses to HIV in Cambodia.

36. HIV/AIDS response needed strengthening of health care systems ranging from health infrastructures (innovation for integrated laboratory services, Adult and Pediatric AIDS care services) within public health services, as well as ongoing building capacity for health care workers to provide good quality of HIV prevention, care and treatment services.

37. Most of the key informants required to develop a transition plan of HIV funding from external to local funding supports to the HIV program in Cambodia based on the strategic plan for HIV and STI responses in the health sector and multisectoral response.

38. They also urged to increase domestic funding at both central level and at the level of local governments to HIV/AIDS response successfully.

7. 2. Conclusion

The purpose of this study was to track the roles of financing in responses to HIV/AIDS in Cambodia. Based on the analyses and findings, the conclusions are drawn as follows:

- With financial and technical assistance supports from development partners and civil society organizations, the Royal Government of Cambodia had actively responded to the spread of the epidemic. Additionally, to achieve viral suppression, and to bring PLHIV healthy, HIV/AIDS care and treatment services and operations have been further expanded significantly.
- National AIDS Authority (NAA) was a multi-sectorial body of the Royal Government of Cambodia, with the core role to lead manage and coordinate the control of HIV and AIDS epidemic in Cambodia to ensure that the national response to HIV and AIDS is in respect to the Three Ones Principle (national coordinating body, one national strategic plan, and one national monitoring and evaluation system). As part of its mission, the NAA has led Cambodia in achieving a dynamic, integrated and sustainable response to HIV.
- The major stakeholders for HIV/AIDS were the Ministry of Health (MOH) and the National Centre for HIV/AIDS, Dermatology and STIs (NCHADS), the Ministry of Economy and Finance (MEF), the Ministry of Interior, the Ministry of Education, Youth, and Sports, the Ministry of Social Affairs, Veterans, and Youth Rehabilitation, the Ministry of Women's Affairs, the

Ministry of National Defense, the Ministry of Labor and Vocational Training, the Ministry of Information and the Ministry of Tourism. As a result of decentralization of the Royal Government, attentiveness of reforms and increased autonomy of local structures, the roles of provincial, commune, village-level authorities and health system at the subnational level are also significant in HIV responses.

- CSOs played a critical role in the HIV response in Cambodia, international NGOs are of technical supports and assistances, while local NGOS and community-based organizations provided prevention services, delivered cares and supports for PLHIV. Along this line, networks of KPs also played an important role in enabling the environment and protection of KPs and PLHIV rights. Likewise, to maintain the success of the HIV responses in Cambodia, securing public financing was needed as being acknowledged by SCN 213. Scaling down external funding had led to a reduction in outreach activities, prevention work with KPs as well as a follow-up of PLHIV on treatment. Therefore, as the government had limited access to KPs, CSOs, networks of KPs and PLHIV associations must also be supported.
- An effective response to HIV including PLHIVs and key populations were reached through a variety of services by allowing them to know their HIV status, protecting themselves, maintaining antiretroviral therapy (ART) and achieved undetectable viral loads regardless of age, sex, sexual orientation and gender identity expression.

- The Government of Cambodia had increased funding for HIV programming and transitioned away from external assistance in order to achieve a sustainable financing for the HIV response. In response to a declining donor funding in HIV/AIDS, the government considered the provision of critical health worker incentive schemes, antiretroviral medications and prevention programs. By incorporating HIV interventions in the national social protection system's benefit package, both sustainability and integration can be promoted.
- HIV prevention in Cambodia remained challenging even though the number of infections reduced. Due to long periods in national surveillance and delayed release of finding hinders because of time and budget constraint, it can be difficult to intervene HIV response effectively. Additionally, Cambodia epidemic was established in KPs include men who have sex with men, transgender people, female entertainment workers, and people who inject drugs.
- With a supported by robust economic growth and enhanced revenue collection capacity, government revenues were expected to increase in real terms. If the health sector's share of government spending remained steady at the current rate, government spending could increase. On top of that, increased fiscal space for health at the national level and subnational level presented an opportunity to mobilize additional government financing. With a proper preventions and developments plan, the domestic financing for HIV would also be potentially developed.

In conclusion, based on the results of the research, the financing of HIV/AIDS and its impacts on PLHIV have faced a number of challenges, which barred its responsibility to improve mutual accountability. The challenges and problems faced by the financing of HIV/AIDS and its impacts on PLHIV and infected people can be eliminated and solved with the implementation of following recommendations.

7. 3. Recommendations

The recommendations for strengthening the financing of HIV/AIDs impacts on the beneficiaries in Cambodia are as follows:

1. The National AIDS Authority should encourage relevant institutions, promote scaling down discrimination against PLHIV and KPs into relevant policy orientation and strategic plans.
2. The Government should provide a free of charge package of public health care services such as kidney testing, liver testing or general health care to PLHIV to reduce OOP for them.
3. As there was a significant decline in funding support for the prevention programs due to refocusing and withdrawal of funding from international donors, domestic leadership and commitments are needed to mobilize the funding for the sustainability of prevention interventions.
4. The long-term HIV financing strategic plan for Cambodia should be considered in both health and non-health sectors. Integration of HIV in health systems should be sustained to the response as well. In addition, some technical efficiency such as targeted interventions and combined

services should also be considered. Furthermore, integration of HIV/AIDS in health insurance schemes such HEF, NSSF and others will allow providers to gather more revenue from the schemes.

5. Government and stakeholders including national and international organizations should define the roles in the HIV response in order to avoid confusion and overlap implementation.
6. Investment scenarios should be studied more to prevent new HIV infections and to achieve fewer AIDS-related deaths than current levels. Further economic benefits arise as more and more people use ARV treatment, which benefits in medium- and long-term cost savings.
7. Even though SCN 213 allowed all PLHIV receiving IDPoo, most of them had not been achieved yet. Hence, relevant institutions should be responsible for expanding social protection to all PLHIV.
8. It should be important to strengthen the relationship between institutions and those in the social protection sectors to ensure that social protection schemes were operating effectively. First of all, substantive discussions should be held to establish a common understanding of the manner of PLHIV as well as KPs in urban areas with the objectives of the social protection sector.
9. The national guidelines should be issued to direct the process for including all PLHIVs into the IDPoor program. Most importantly, the priority is to identify a process that upholds the confidentiality of PLHIV.

10. To achieve zero discrimination by 2025, the law on the Prevention and the Fight against HIV/AIDS Epidemic must be enforced due to PLHIV and KPs faced a discrimination while trying to have access to services.
11. To maintain the good health of PLHIV, higher attention should be paid to monitor the CD4 and viral load level.
12. The government should consider the importance of CSO's contributing role and guide them to perform their work effectively. Based on the SCN213, the government institutions should also have a clear plan in financing the provision of critical interventions by civil society in the context of declining donor funding moreover.
13. National AIDS Authority was established to lead and coordinate to respond against HIV and AIDS to achieve the Three Zeros: zero new HIV infections, zero AIDS-related deaths and zero discrimination in 2025 should take the lead in managing the resource mobilization to ensure that the right amount go to the right persons at the right time and place. Particularly, low cost with effective result should be adopted as the national policy and strategy stated.

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